Ontario
Division of Mines

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Gravity Control Network in the Timmins, Matheson, and Cobalt Areas

Districts of Cochrane and Timiskaming

Compliments of
ONTARIO
MINISTRY OF NORTHERN DEVELOPME
AND MINES
Not for resale

R. S. Middleton

Geoscience Report 127

TORONTO
1975

93-00834/

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Publications of the Ontario Division of Mines
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are obtainable through the
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Parliament Buildings, Queen's Park, Toronto, Ontario

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Parts of this publication may be quoted if credit is given to the Ontario Division of Mines. It is recommended that reference to this report be made in the following form:

Middleton, R. S.
1975: Gravity Control Network in the Timmins-Matheson-Cobalt Areas, Districts of Cochrane and Timiskaming; GR.127, 94p. Accompanied by Chart A, scale 1 inch to 8 miles (1:506,880).

1000-75-b

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ABSTRACT

A network of gravity control stations was established in 1970. The network is tied to the Canada Gravity Net previously established by the Gravity Division, Earth Physics Branch, Department of Energy, Mines and Resources. Station descriptions are presented for the information of the mining industry and other institutions carrying out gravity surveys. Some of the principal facts of certain stations may be improved in future years and users should request updated information before using station values in calculations.

Table 1. LISTING OF GRAVITY CONTROL STATIONS BY TOWNSHIP

TOWNSHIP	CLAIM MAP NO.	STATION NO.
Adams	M.261	9640-70
Beatty	M.324	9666-70
Bowman	M.333	9211-52
Bristol	M.264	9610-70
		9611-70
Bucke	M.432	9646-70
		9658-70
		9659-70
Carr	M.335	9653-70
		9661-70
		9662-70
		9663-70
		9664-70
		9665-70
Clergue	M.337	9671-70
Cody	M.270	9649-70
Coleman	M.454	9645-70
		9657-70
Cote	M.271	9651-70
		9652-70
Deloro	M.272	9639-70
		9642-70
		9676-70
Denton	M.273	9612-70
Dymond	M.468	9647-70
		9648-70
German	M.283	9636-70
Gillies Limit	M.483	9644-70
Godfrey	M.284	9605-70
		9606-70
		9637-70
Hillary	M.286	9614-70
	M.290	9613-70
Hislop	M.355	9654-70
		9655-70
Jamieson	M.288	9607-70
		9625-70
		9643-70
Jessop	M.289	9137-55
Loveland	M.293	9679-70
MacDiarmid	M.294	9626-70
		9627-70
		9628-70
Mahaffy	M.540	9631-70
Matheson	M.297	9633-70
		9634-70
		9635-70
Mountjoy	M.302	9601-70
		9602-70
		9604-70
		9608-70
		9617-70

Continued

TABLE 1—*continued*

TOWNSHIP	CLAIM MAP NO.	STATION NO.
Munro	M.376	9656-70
		9660-70
Murphy	M.303	9672-70
		9673-70
		9674-70
Ogden	M.305	9609-70
		9610-70
		9638-70
Reid	M.575	9629-70
		9630-70
Robb	M.309	9603-70
		9677-70
		9678-70
Sewell	M.1102	9615-70
		9616-70
Shaw	M.311	9623-70
		9624-70
Strathy	M.596	9205-52
Taylor	M.391	9667-70
		9668-70
		9669-70
		9670-70
Tisdale	M.315	9001-52
		9386-52
		9618-70
		9619-70
		9620-70
		9621-70
		9622-70
		9641-70
Wark	M.317	9675-70
Whitesides	M.318	9650-70
Whitney	M.319	9632-70

GRAVITY CONTROL NETWORK

IN THE

TIMMINS, MATHESON, AND COBALT AREAS

DISTRICTS OF COCHRANE AND TIMISKAMING

by

R. S. MIDDLETON[1]

INTRODUCTION

During the summer of 1970, a detailed gravity control network of 84 stations was established in the Timmins, Matheson, and Cobalt areas of Northwestern Ontario. The network was tied to control stations previously established by the Gravity Division of the Dominion Observatory[2]. Hence it is tied to the Canada Gravity Net. In 1971, P. Winter of the Gravity Division, Earth Physics Branch, re-tied many of the base stations to previous bases with a LaCoste-Romberg gravimeter.

The original purpose of establishing control stations was to provide control for a regional gravity survey being carried out by the Ontario Division of Mines. In addition, the network will be of use to the mining industry and other institutions wishing to perform regional and detailed gravity surveys, especially in the following situations:

1) Reducing gravity surveys to a common base level for compilation purposes.
2) Observing drift characteristics of gravimeters over long periods of time as well as in the course of a survey.
3) Checking the calibration of gravimeters. In this situation it would be wise to use stations tied many times, if a scale constant is to be calculated.
4) Providing reference stations for resetting gravimeters.

Where possible, the gravity control stations were established at accessible locations with accurate elevations. In the future, if more accurate elevations or more

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[1]Geophysicist, Ontario Department of Mines and Northern Affairs, 1971. Manuscript approved for publication by the Chief Geologist 23 December 1971.

[2]Now called the Gravity Division, Earth Physics Branch, Department of Energy, Mines and Resources.

exact co-ordinates can be assigned to a gravity station, there will be an adjustment made to the Bouguer anomaly value. From time to time, additional control stations will be added, and the network will be improved and adjusted. By repeating base loops between stations and by using a more sophisticated gravimeter for base looping, changes in both the value of preliminary G and the Bouguer anomaly value could be made. The station user should therefore *obtain a listing of the latest values*[1], if the station values are to be used in the user's calculations.

PREVIOUS WORK

Regional gravity surveys in northeastern Ontario have been carried out by the Gravity Division of the Earth Physics Branch, Department of Energy, Mines and Resources (Gravity Division 1966; 1967). A limited amount of gravity work has been done by private companies.

ACKNOWLEDGMENTS

Members of the 1970 geophysical field party, including W. Moon, P. Strandberg, T. Wilson, B. Powell, H. Elliott, and P. Mark, were involved in different stages of the gravity survey and are thanked for their efficient work.

Mr. H. McCuish of the Ontario Hydro Electric Commission and his staff are thanked for providing elevation data for all the hydro transmission lines in the survey area.

Many staff members of the Ontario Department of Highways' Engineering Surveys Section and Documents Section in North Bay, the District Engineers Office in New Liskeard, and Documents Section in Thunder Bay provided great assistance in gathering elevation data along roads in the survey area and are all thanked for their untiring efforts.

The Gravity Division of the Earth Physics Branch, Department of Energy, Mines and Resources, provided the Worden gravimeter No. 460 used in the survey. Helpful guidance was received from Mr. Bryan Boyd, Mr. Ken McConnell, and Mr. P. Winter of the Gravity Division.

SURVEY PROCEDURE

The gravity control network was established with a Worden No. 460 gravimeter (scale constant 0.45723) using an A-B-A-B loop procedure. An attempt was made to keep the time between A-B-A no longer than 1.5 hours. The readings were plotted against Greenwich Mean Time (GMT) as shown in Figure 1 (chart "A", back pocket) to determine the drift of the instrument.

[1]Obtain from the Geophysics/Geochemistry Section, Geological Branch, Ontario Division of Mines, Toronto, or Gravity Division, Earth Physics Branch, Department of Energy, Mines and Resources, Ottawa.

The readings at each station are joined by a straight line, assuming linear drift, and vertical lines are drawn between the two drift curves to give the difference in reading between the two stations. In this case the mean difference in reading (ΔR) is worked out as shown in the example calculation below, going from station 9608-70 to 9611-70:

536.50	536.3
521.35	521.4
−15.15	−14.9

Average $\Delta R = -15.025$ divisions.

The average of the two differences is then multiplied by the scale constant of the gravimeter to determine the difference in gravity between the two stations. It can be seen that by starting from a station of known gravity, the value of gravity can be carried to any point. In the case of the Canada Gravity Net, the point of reference is the National Reference Pier at Ottawa. In the present survey, the control stations were tied to regional control stations previously established by the Gravity Division (Winter 1967; Winter and Perrier 1968). The stations used in this survey were:

NAME	NUMBER
Austin Airways, S. Porcupine	9001-52
Timmins Airport	9137-55
Timagami, ONR station	9205-52
Matheson, ONR station	9211-52
Timmins, ONR station	9386-52

It is desirable to make closed loops when laying out a network in order that errors can be distributed. Figures 2, 3 and 4 (chart "A", back pocket) illustrate the loops and ties that were made in this case. In one instance (stations 9677-70 and 9678-70), shown on Figure 2, a closed loop was not possible due to the isolation of the station and the time required to join the end of the control line to another station. Solid lines joining stations show ties made with the Worden gravimeter whereas dashed lines show ties made by P. Winter with the LaCoste-Romberg gravimeter. Some LaCoste-Romberg ties were made to stations outside the control net described here.

DESCRIPTION OF GRAVITY CONTROL STATIONS

The location of the gravity control stations is illustrated on the index map (chart A, back pocket). A listing of the control stations by township is given in Table 1 on page viii. Many of the control stations have been marked by an aluminum disc to show the exact location of the station. Photo 1 shows an example of the aluminum discs used to mark the stations.

PRINCIPAL FACTS

Each station is described on a separate page beginning with the station name on the top left and the assigned number on the top right of the page. The number following the hyphen indicates the year the station was established.

Photo 1–Aluminum disc used as station marker

ELEVATION

The elevation is given in feet above mean sea level and, if the accuracy of the elevation is known, it is stated following the elevation value. Elevations of stations were obtained from the Ontario Department of Highways*, the Ontario Hydro-Electric Power Commission, and the files of the Geodetic Survey of Canada (Serviss 1959). Spirit levelling to some stations was carried out by the field party.

LATITUDE AND LONGITUDE

Latitude and longitude is given in geographic coordinates in degrees, minutes, and decimal fractions of minutes. To the right of the geographic coordinates, the equivalent position is stated in Universal Transverse Mercator Grid coordinates (Department of Energy, Mines and Resources 1969) where available. The UTM grid appears on most Canadian topographic maps.

MAP REFERENCE

The maps indicated beside this heading were used to determine the coordinates of the station and can be used as a reference to locate the station. With the exception of stations 9677-70 and 9678-70, the locations of all the stations were taken from the 1:50,000 National Topographic Series. These two locations were determined using the Preliminary Map P.598 (1 inch to ¼ mile or 1:15840) as a base map.

BOUGUER VALUE

This value may be adjusted, as stated earlier, when more accurate readings, coordinate values and elevations can be obtained. The Bouguer anomaly values are normally calculated from the drift corrected gravity readings by applying the following corrections:

+ Free-air correction
− Bouguer correction
+ Topographic correction
− Theoretical gravity value

In the present case, topographic corrections were not applied. The Bouguer anomaly value takes into account the attraction of the mass of rock between the surface corresponding to mean sea level (the Geoid) and the elevation of the gravity station. The change in gravity (ΔG) due to this mass of rock is expressed by the

*Government Departments were reorganized into various Ministries on 1 July 1972.

general formula (Dobrin 1960):

$$G = 2\pi\gamma\sigma h$$

where γ is the universal gravitational constant, σ is the specific gravity of the rock, π equals 3.14 and h is the elevation of the station above mean sea level.

In the reported Bouguer values, a specific gravity of 2.67 was used, thus making the Bouguer correction −0.034 milligals per foot of elevation. Adding a free-air correction of +0.09406 milligals per foot, a combined correction of +0.060 milligals per foot was made.

The theoretical gravity value used was based on the International formula of 1930. The reader is referred to Dobrin's (1960) text 'Introduction to Geophysical Prospecting' for details on gravity data corrections.

PRELIMINARY G

This value is carried to each station by the method described under Survey Procedure. The number is given in gals. A milligal is therefore expressed by the third figure to the right of the decimal point, as marked by the arrow in the example below:

980.84343
↓

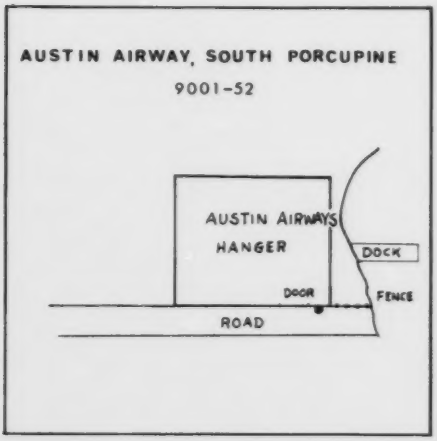
The values shown on the description sheets are given to one one-hundredth of a milligal. The overall accuracy of the network values is estimated to be ±0.1 milligals.

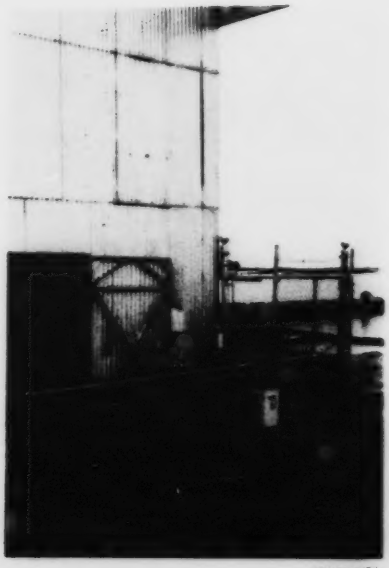
All sketches illustrating the station locations are north oriented.

GRAVITY CONTROL STATIONS

AUSTIN AIRWAYS, SOUTH PORCUPINE 9001-52

Elevation: 920.0
****Latitude:*** 48°28.7′N
****Longitude:*** 81°12.4′W
Map Reference: N.T.S. Timmins 42 A/6 E
Bouguer Value: −53.99
Preliminary G: 980.83351
Description: Two feet (0.6 m) from wall, at southeast corner of Austin Airways hangar, on Golden Ave., South Porcupine, Tisdale Township.





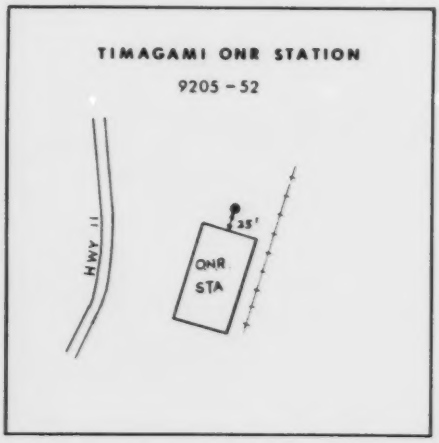
ODM9077

Looking Northeast

*All Latitude and Longitude values are in degrees, minutes, and decimal fractions of minutes e.g., 81°41.72′.

TEMAGAMI, ONR STATION 9205-52

Elevation: 986.0
****Latitude:*** 47°03.9′N
****Longitude:*** 79°47.0′W
Map Reference: N.T.S. Timagami 31 M/4W
Bouguer Value: −31.90
Preliminary G: 980.72457
Description: At ONR station, 25 feet (7.6 m) north-northwest of north wall of station building on gravel parking lot.



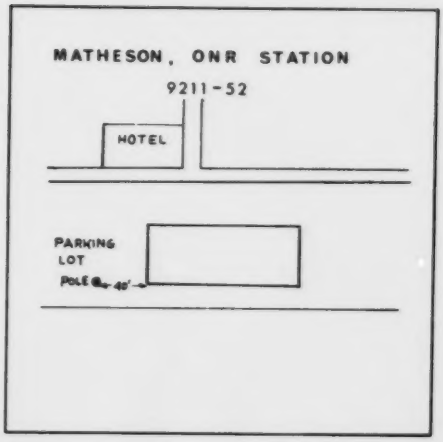
ODM9078

Looking Southeast

**Ibid.*

MATHESON, ONR STATION 9211-52

Elevation: 860.0
****Latitude:*** 48°32.2'N
****Longitude:*** 80°28.2'W
Map Reference: N.T.S. Matheson 42 A/9 W
Bouguer Value: −38.37
Preliminary G: 980.85791
Description: At ONR station, on asphalt parking lot 50 feet (15.2 m) southwest of center of west wall next to telephone pole.



ODM9079

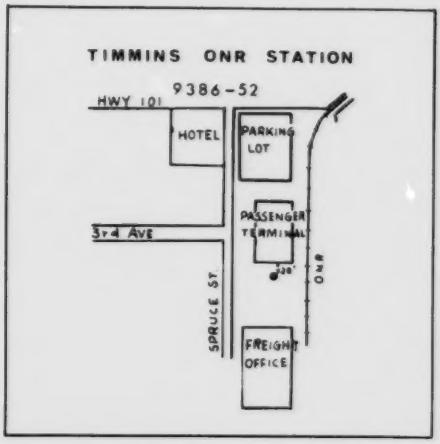
Looking East

**Ibid.*

TIMMINS, ONR STATION

9386-52

Elevation:	1029.0	
****Latitude:***	48°28.47′N	5368800 N
****Longitude:***	81°19.57′W	475863 E
Map Reference:	N.T.S. Timmins 42 A/6W	
Bouguer Value:	−51.86	
Preliminary G:	980.82847	
Description:	Twenty feet (6.1 m) south of center of station on asphalt parking lot.	



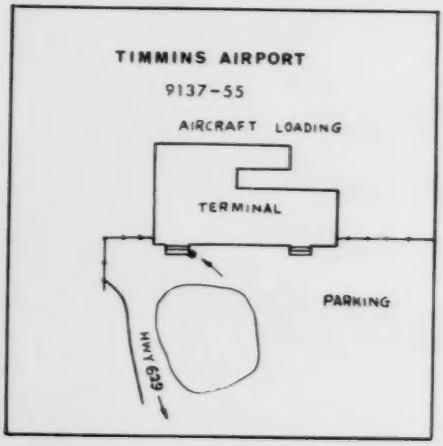
ODM9080

Looking North

**Ibid.*

TIMMINS AIRPORT 9137-55

Elevation:	980.0	
****Latitude:***	48°34.03'N	5379205 N
****Longitude:***	81°22.36'W	472550 E
Map Reference:	N.T.S. Pamour 42 A/11 W	
Bouguer Value:	–48.34	
Preliminary G:	980.84343	
Description:	On asphalt pavement beside front steps leading to terminal building.	



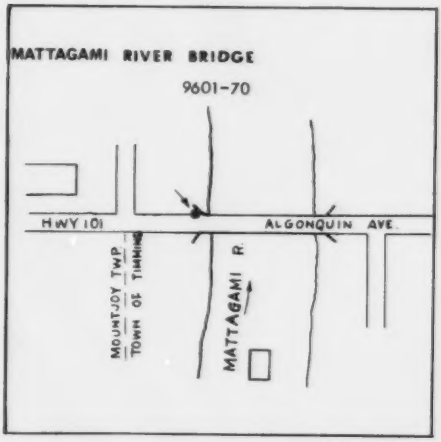
ODM9081

Looking North

**Ibid.*

MATTAGAMI RIVER BRIDGE 9601-70

Elevation: 903.54 ± 0.1 ft.
***Latitude:** 48°28.57'N 5369060 N
***Longitude:** 81°21.08'W 474050 E
***Map Reference:** N.T.S. Timmins 42 A/6 W
***Bouguer Value:** −54.96
***Preliminary G:** 980.83327
***Description:** Northwest corner of Mattagami River bridge on Highway 101, approximately 100 feet (30 m) east of Town of Timmins-Mountjoy Township boundary. Cut 'X' on concrete ledge.



ODM9082

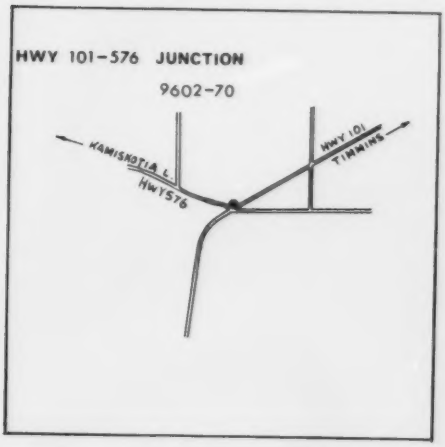
Looking East

*Ibid.

JUNCTION HWY 101-576

9602-70

Elevation:	950.2 ± 0.1 ft.	
***Latitude:**	48°27.89′N	5367860 N
***Longitude:**	81°26.12′W	467840 E
Map Reference:	N.T.S. Timmins 42 A/6 W	
Bouguer Value:	−55.49	
Preliminary G:	980.82901	
Description:	Approximately 100 feet (30 m) east of the junction of Highways 101 and 576, on the north edge of pavement, opposite highway number sign.	



ODM9083

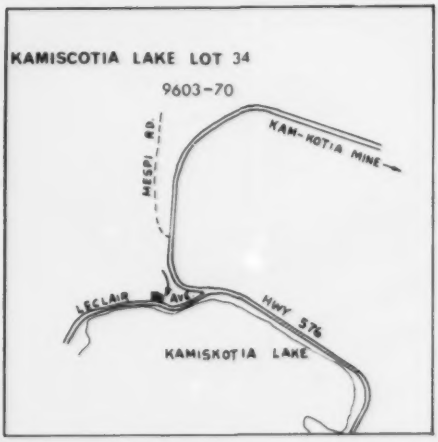
Looking Northeast

*Ibid.

KAMISKOTIA LAKE, LOT 34

9603-70

Elevation: 948 ± 1 ft.
***Latitude:** 48°35.01′N 5375075 N
***Longitude:** 81°38.07′W 453110 E
Map Reference: N.T.S. Kamiskotia Lake 42 A/12
Bouguer Value: −26.07
Preliminary G: 980.86906
Description: On east side of house on lot 34, Kamiskotia Lake, Robb Township. Six feet (1.8 m) east of back door on 1 foot by 1 foot (0.3 m by 0.3 m) concrete slab.



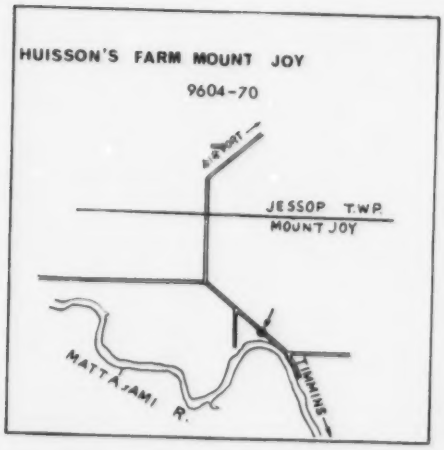
ODM9084

Looking North

*Ibid.

HUISSON FARM, MOUNTJOY TOWNSHIP 9604-70

Elevation:	892.3 ± 0.1 ft.
***Latitude:**	48°31.52′N 5374500 N
***Longitude:**	81°22.16′W 472750 E
Map Reference:	N.T.S. Pamour 42 A/11 W
Bouguer Value:	−57.11
Preliminary G:	980.83624
Description:	One foot (0.3 m) west of northeast corner of concrete floor in center section of barn. Barn is on airport road (Highway 629), Mountjoy Twp. beside Mattagami River.



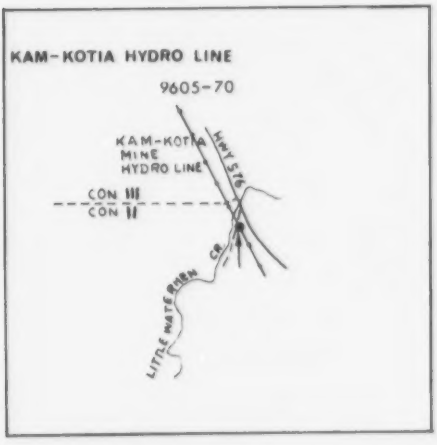
ODM9085

Looking South

*Ibid.

KAM-KOTIA HYDRO LINE, GODFREY TOWNSHIP 9665-70

Elevation:	949 ± 1 ft.
****Latitude:***	48°29.51′N 5370895 N
****Longitude:***	81°30.47′W 462480 E
Map Reference:	N.T.S. Dana Lake 42 A/5 W
Bouguer Value:	−47.21
Preliminary G:	980.83973
Description:	At base of pole 90, on Kam-Kotia mine power line, 200 feet (61 m) south of Little Waterhen Creek, Godfrey Township.



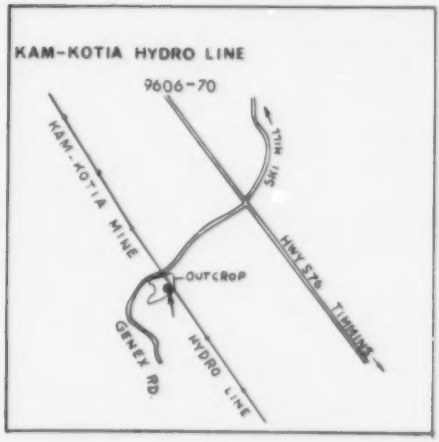
ODM9084

Looking North

**Ibid.*

KAM-KOTIA HYDRO LINE, GODFREY TOWNSHIP 9606-70

Elevation:	1034 ± 1 ft.	
****Latitude:***	48°31.53'N	5374575 N
****Longitude:***	81°32.87'W	459550 E
Map Reference:	N.T.S. Kamiskotia Lake 42 A/12	
Bouguer Value:	−16.70	
Preliminary G:	980.83808	
Description:	At base of pole 117 on Kam-Kotia Mine hydro line. 75 feet (22.9 m) south of Genex Mine road on outcrop.	



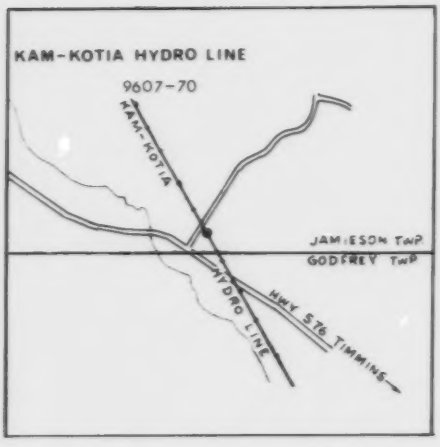
ODM9087

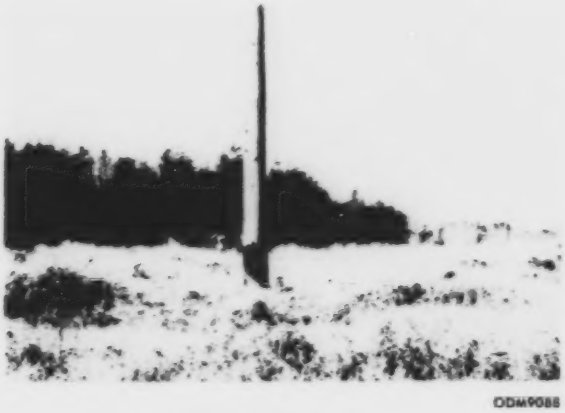
Looking North

**Ibid.*

KAM-KOTIA HYDRO LINE, JAMIESON TOWNSHIP 9607-70

Elevation: 974 ± 1 ft.
****Latitude:*** 48°32.34'N 5376100 N
****Longitude:*** 81°33.57'W 458675 E
Map Reference: N.T.S. Kamiskotia Lake 42 A/12
Bouguer Value: −37.67
Preliminary G: 980.85196
Description: At the base of pole 128, Kam-Kotia Mine Hydro line, 60 feet (18.2 m) south of road to gravel pit in Jamieson Township.





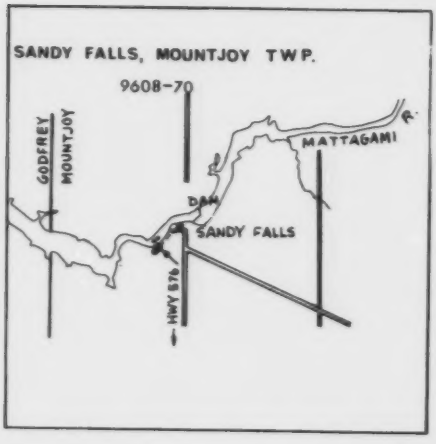
ODM9088

Looking Northwest

**Ibid.*

SANDY FALLS, MOUNTJOY TOWNSHIP 9608-70

Elevation: 836.2 ± 0.1 ft.
Latitude: 48°30.52'N 5372725 N
Longitude: 81°36.90'W 466875 E
Map Reference: N.T.S. Pamour 42 A/11 W
Bouguer Value: −53.80
Preliminary G: 980.84141
Description: On small outcrop on south shore of Mattagami River, 50 feet (15.2 m) from Ontario Hydro shack, 100 feet (30.5 m) west of gate.

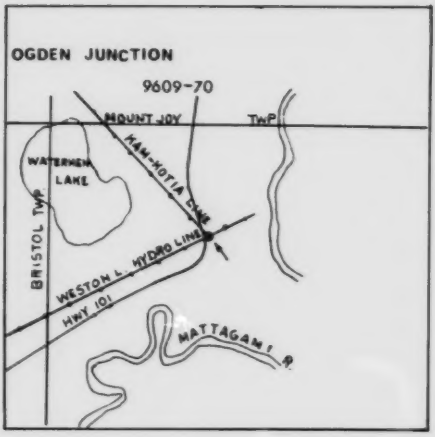


Looking Southeast

*Ibid.

OGDEN JUNCTION, OGDEN TOWNSHIP 9609-70

Elevation:	971 ± 1 ft.	
****Latitude:***	48°26.32'N	5364910 N
****Longitude:***	81°26.37'W	467475 E
Map Reference:	N.T.S. Timmins 42 A/6 W	
Bouguer Value:	−54.54	
Preliminary G:	980.82627	
Description:	Junction of Kam-Kotia Mine hydro line and Weston Lake hydro line. At base of center pole labeled No. 46, 100 feet (30.5 m) southeast of Highway 101.	



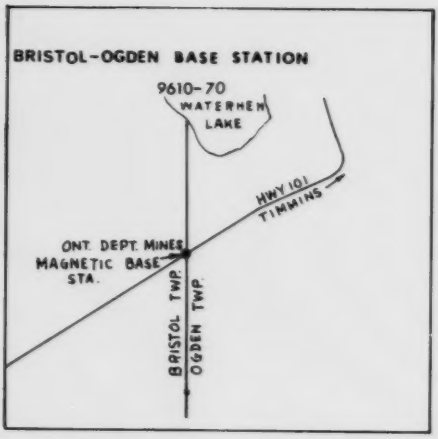
ODM9090

Looking Southeast

**Ibid.*

BRISTOL-OGDEN MAGNETIC BASE STATION 9610-70

Elevation:	956.15 ± 0.1 ft.
****Latitude:***	48°25.6′N 5363650 N
****Longitude:***	81°27.91′W 465590 E
Map Reference:	N.T.S. Timmins 42 A/6 W
Bouguer Value:	−52.72
Preliminary G:	980.82798
Description:	On Ontario Department of Mines magnetic base station, 100 feet (30.5 m) north of Highway 101 on Bristol-Ogden township line. Station marked by concrete block and brass plaque.



ODM9091

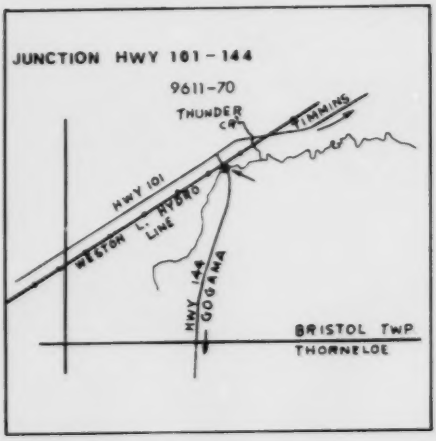
Looking North

**Ibid.*

HIGHWAYS 144-101 JUNCTION

9611-70

Elevation: 1018 ± 0.1 ft.
***Latitude:** 48°22.92′N 5482295 N
***Longitude:** 81°34.31′W 813496 E
Map Reference: N.T.S. Dana Lake 42 A/5
Bouguer Value: −38.29
Preliminary G: 980.83470
Description: 800 feet (243.8 m) south of the junction of Highways 101 and 144, Bristol Township. On center of creosote culvert on west side of Highway 144.



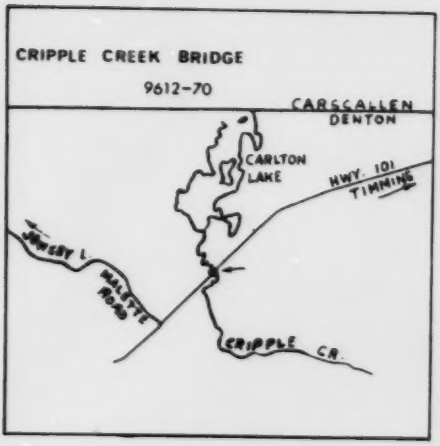
ODM9092

Looking North

*Ibid.

CRIPPLE CREEK BRIDGE 9612-70

Elevation: 1062.15 ± 0.1 ft.
Latitude: 48°21.80'N 5354825 N
Longitude: 81°40.38'W 450150 E
Map Reference: N.T.S. Dana Lake 42 A/5
Bouguer Value: –43.03
Preliminary G: 980.82563
Description: On northwest corner of Cripple Creek bridge on Highway 101, Denton Township. Note: New pavement and guardrails not in photo.



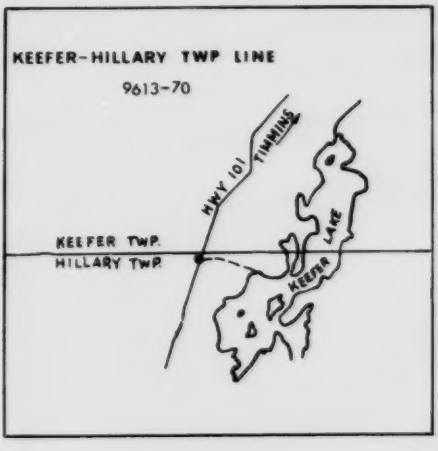
ODM9093

Looking East

*Ibid.

KEEFER-HILLARY TOWNSHIP LINE 9613-70

Elevation: 1130.7 ± 0.1 ft.
****Latitude:*** 48°16.85′N 5347000 N
****Longitude:*** 81°47.80′W 440760 E
Map Reference: N.T.S. Dana Lake 42 A/5
Bouguer Value: −52.52
Preliminary G: 980.80459
Description: On 18 inch (45 cm) steel culvert, west side of Highway 101, 150 feet (45.7 m) north of Keefer-Hillary township line. 150 feet (45.7 m) southwest of road to Keefer Lake.



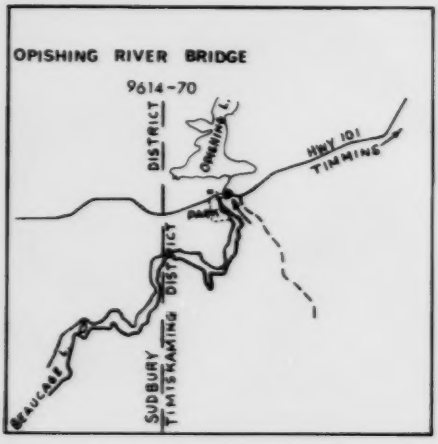
ODM9094

Looking North

**Ibid.*

OPISHING RIVER BRIDGE 9614-70

Elevation: 1106.0 ± 0.1 ft.
Latitude: 48°14.37′N 5343060 N
Longitude: 81°51.79′W 437140 E
Map Reference: N.T.S. Kenogaming Lake 42 A/4 W
Bouguer Value: −50.48
Preliminary G: 980.80442
Description: On northeast end of Opishing River bridge, on Highway 101, Hillary Township. On curb made of 12 inch by 12 inch (30 cm by 30 cm) wood.



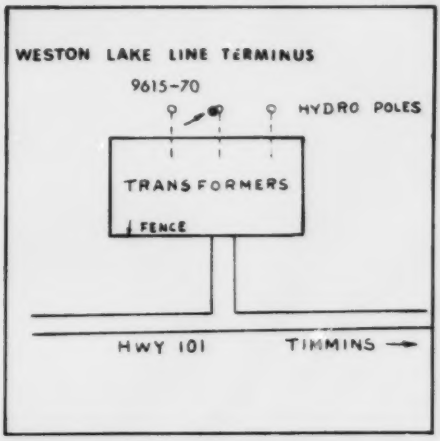
ODM9095

Looking West

*Ibid.

WESTON LAKE LINE TERMINUS 9615-70

Elevation: 1137.8 ± 1 ft.
****Latitude:*** 48°14.42'N 5343225 N
****Longitude:*** 81°56.04'W 430650 E
Map Reference: N.T.S. Kenogaming Lake 42 A/4 W
Bouguer Value: −36.72
Preliminary G: 980.81634
Description: At base of center pole at end of Weston Lake hydro line immediately north of fenced in transformers. 200 feet (61 m) north of Highway 101, .35 miles (0.56 km) east of Lapierre lumber road, Sewell Township.



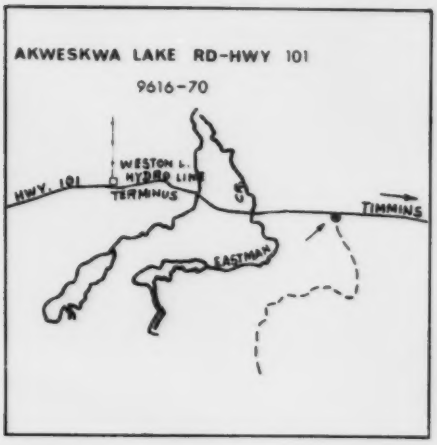
ODM9096

Looking South

**Ibid.*

AKWESKWA-MISTY LAKE ROAD 9616-70

Elevation: 1137.3 ± 0.1 ft.
***Latitude:** 48°14.24′N 5342850 N
***Longitude:** 81°53.89′W 433300 E
Map Reference: N.T.S. Kenogaming Lake 42 A/4 W
Bouguer Value: –42.86
Preliminary G: 980.80998
Description: On outcrop on south side of Highway 101 at entrance to dirt road, leading to Akweskwa Lake, 1.8 miles (2.9 km) east of Weston Lake hydro line terminus, Sewell Township.



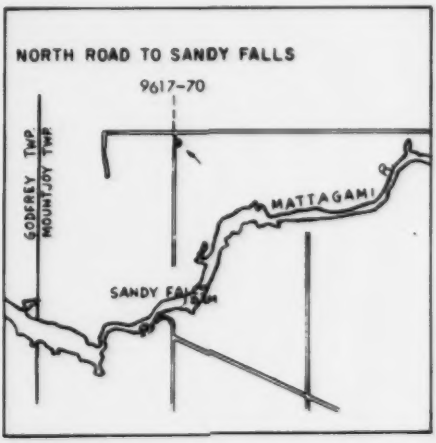
ODM9097

Looking East

*Ibid.

NORTH ROAD TO SANDY FALLS 9617-70

Elevation:	937 ± 10 ft.
****Latitude:***	48°31.77'N 5375040 N
****Longitude:***	81°26.60'W 467260 E
Map Reference:	N.T.S. Pamour 42 A/11 W
Bouguer Value:	−46.17
Preliminary G:	980.84487
Description:	On outcrop, 300 feet (91.4 m) south of east-west road leading to Highway 629, on gravel road approaching Sandy Falls from the north. Mountjoy Township.



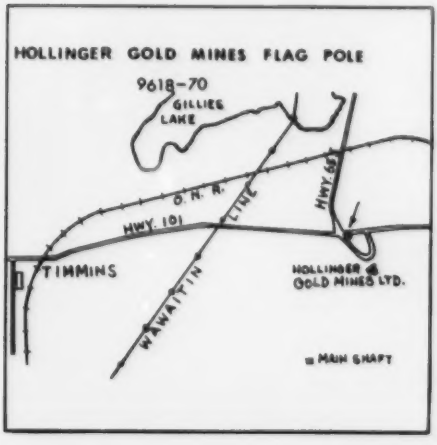
ODM9098

Looking North-northeast

**Ibid.*

HOLLINGER GOLD MINES FLAG POLE 9618-70

Elevation: 1060.35 ± 0.1 ft.
Latitude: 48°28.56'N 5369050 N
Longitude: 81°18.73'W 476925 E
Map Reference: N.T.S. Timmins 42 A/6 W
Bouguer Value: −50.59
Preliminary G: 980.82824
Description: At concrete base of Hollinger Gold Mines Limited flag pole, 20 feet (6.1 m) south of junction of Highways 101 and 655, Tisdale Township. Note: Pole removed August, 1970.



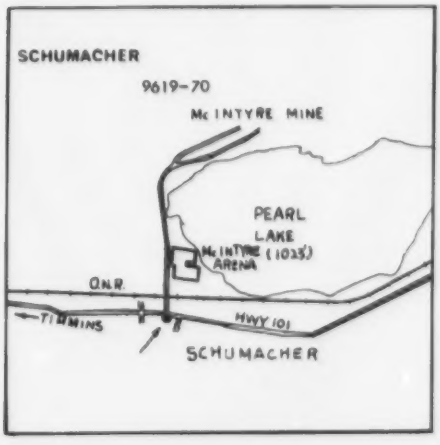
ODM9099

Looking South

*Ibid.

SCHUMACHER 9619-70

Elevation:	1039 ± 3 ft.	
****Latitude:***	48°28.56′N	5369040 N
****Longitude:***	81°17.89′W	477960 E
Map Reference:	N.T.S. Timmins 42 A/6 W	
Bouguer Value:	−49.25	
Preliminary G:	980.83080	
Description:	On curb, south side of Highway 101, at intersection of McIntyre Road, 2 feet (0.6 m) north of fire hydrant, 15 feet (4.6 m) east of stop light.	



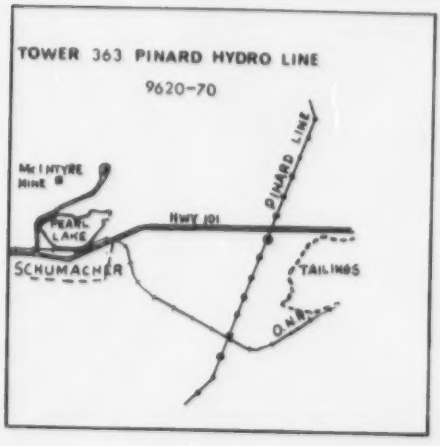
ODM9100

Looking Southeast

*Ibid.

TOWER 363, PINARD POWERLINE 9620-70

Elevation:	991 ± 1 ft.	
***Latitude:**	48°28.70'N	5369290 N
***Longitude:**	81°15.64'W	480725 E
Map Reference:	N.T.S. Timmins 42 A/6 W	
Bouguer Value:	–49.39	
Preliminary G:	980.83385	
Description:	At base of steel tower 363 on Pinard hydro transmission line, 400 feet (121.9 m) south of Highway 101, Tisdale Township.	



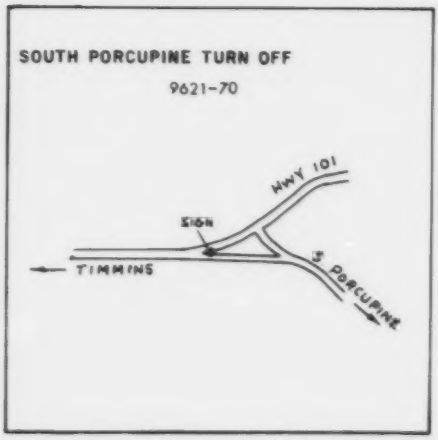
ODM9101

Looking South

*Ibid.

SOUTH PORCUPINE TURN OFF 9621-70

Elevation: 972.95 ± 0.01 ft.
Latitude: 48°28.75'N 5369375 N
Longitude: 81°13.60'W 483240 E
Map Reference: N.T.S. Timmins 42 A/6 E
Bouguer Value: −51.64
Preliminary G: 980.83274
Description: At base of sign indicating South Porcupine turn off for east bound traffic on Highway 101.



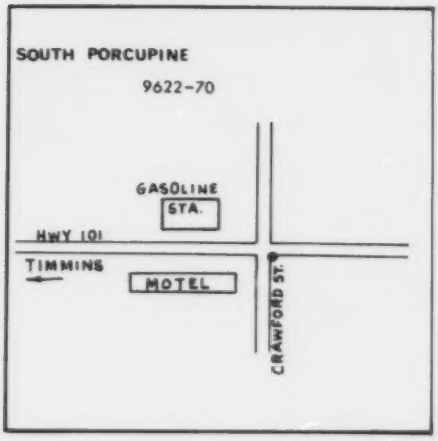
ODM9102

Looking East

*Ibid.

HAROLD AND CRAWFORD STS., SOUTH PORCUPINE 9622-70

Elevation: 943.45 ± 0.1 ft.
***Latitude:** 48°29.09'N 5370000 N
***Longitude:** 81°12.52'W 484575 E
***Map Reference:** N.T.S. Timmins 42 A/6 E
***Bouguer Value:** −51.91
***Preliminary G:** 980.83474
***Description:** On Southeast corner of concrete foundation for storm sewer, on southeast corner of Harold and Crawford Streets, South Porcupine, Tisdale Township.



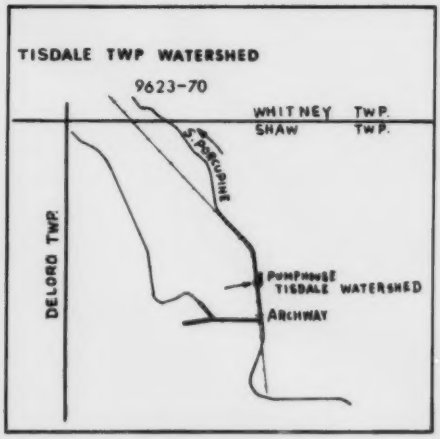
ODM9103

Looking Northwest

*Ibid.

TISDALE WATERSHED, SHAW TOWNSHIP 9623-70

Elevation: 988 ± 25 ft.
****Latitude:*** 48°26.0′N 5364260 N
****Longitude:*** 81°10.39′W 487190 E
Map Reference: N.T.S. Timmins 42 A/6 E
Bouguer Value: −58.06
Preliminary G: 980.82129
Description: At the northwest corner of a concrete block building (pump house) in Tisdale Watershed area, Shaw Township.



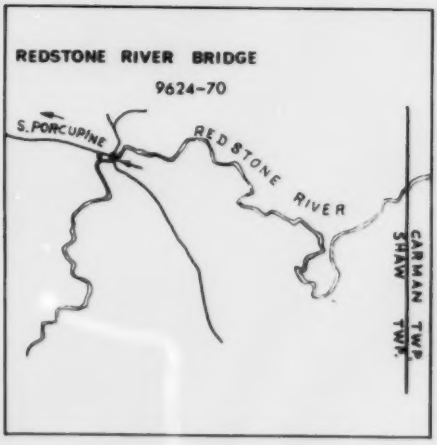
ODM9104

Looking East

**Ibid.*

REDSTONE RIVER BRIDGE 9624-70

Elevation:	945 ± 25 ft.	
****Latitude:***	48°24.50′N	5361490 N
****Longitude:***	81°07.30′W	490990 E
Map Reference:	N.T.S. Timmins 42 A/6 E	
Bouguer Value:	−57.56	
Preliminary G:	980.82212	
Description:	On northeast end of wooden bridge crossing Redstone River, Shaw Township.	



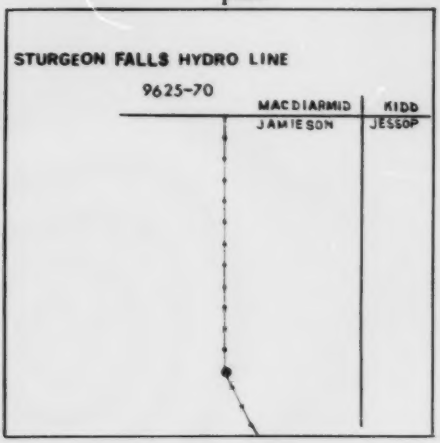
ODM9105

Looking Southeast

**Ibid.*

STURGEON FALLS HYDRO LINE, JAMIESON TOWNSHIP 9625-70

Elevation: 930 ± 25 ft.
Latitude: 48°35.81'N 5382540 N
Longitude: 81°29.24'W 464060 E
Map Reference: N.T.S. Pamour 42 A/11 W
Bouguer Value: −31.50
Preliminary G: 980.86602
Description: At Ontario Department of Mines magnetic base station on bend in hydro line in Jamieson Township, 25 feet (7.6 m) east of road. Marked by 4 inch by 4 inch (10 cm by 10 cm) wooden post.



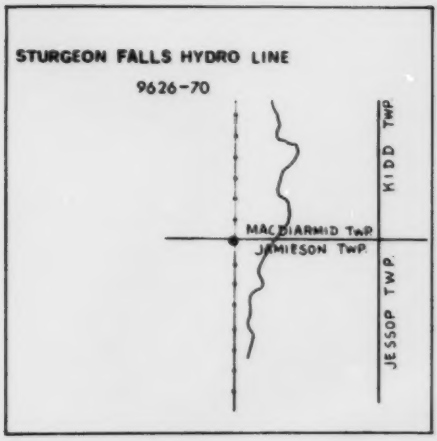
ODM9106

Looking East

*Ibid.

STURGEON FALLS, HYDRO LINE, S. MACDIARMID LINE 9626-70

Elevation: 930 ± 25 ft.
Latitude: 48°37.44′N 5385560 N
Longitude: 81°29.29′W 464026 E
Map Reference: N.T.S. Pamour 42 A/11 W
Bouguer Value: −23.57
Preliminary G: 980.87639
Description: On west edge of hydro line road, on the Jamieson-MacDiarmid township boundary. Claim posts on east side of road.



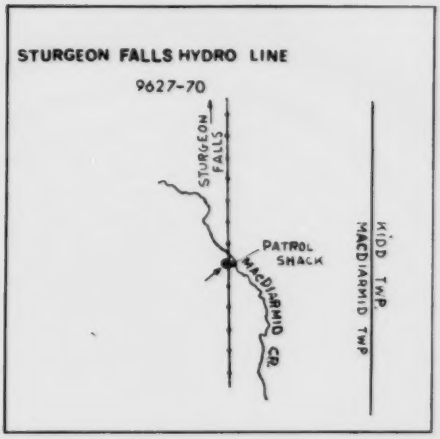
ODM9107

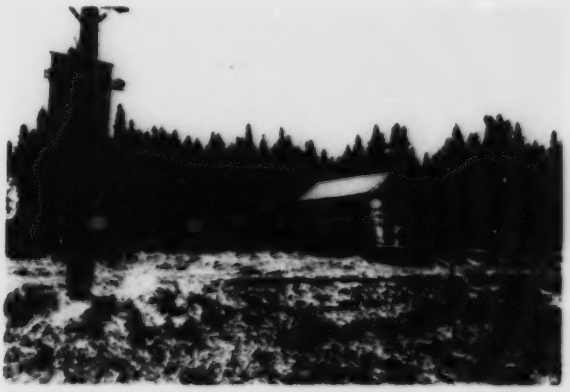
Looking East

*Ibid.

STURGEON FALLS HYDRO LINE, PATROL SHACK 9627-70

Elevation:	880 ± 25 ft.	
****Latitude:***	48°39.62′N	5389600 N
****Longitude:***	81°29.29′W	464050 E
Map Reference:	N.T.S. Pamour 42 A/11 W	
Bouguer Value:	−23.67	
Preliminary G:	980.88115	
Description:	At base of hydro pole with telephone box, 100 feet (30.5 m) northwest of patrol shack, MacDiarmid Township.	





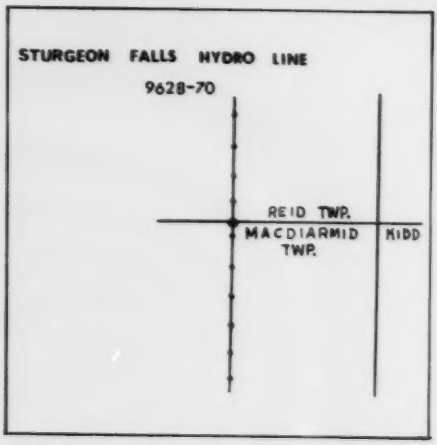
ODM9108

Looking East

*Ibid.

STURGEON FALLS HYDRO LINE 9628-70

Elevation: 920 ± 25 ft.
****Latitude:*** 48°42.65′N 5395210 N
****Longitude:*** 81°29.36′W 464000 E
Map Reference: N.T.S. Pamour 42 A/11 W
Bouguer Value: −23.67
Preliminary G: 980.88464
Description: At base of pole No. 246, 50 feet (15.2 m) south of the Reid-MacDiarmid township boundary.



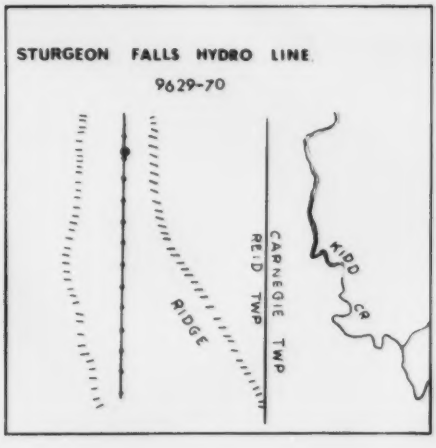
ODM9109

Looking West

**Ibid.*

STURGEON FALLS HYDRO LINE 9629-70

Elevation:	930 ± 25 ft.
****Latitude:***	48°44.72′N 5399055 N
****Longitude:***	81°29.31′W 464080 E
Map Reference:	N.T.S. Pamour 42 A/11 W
Bouguer Value:	−28.78
Preliminary G:	980.88205
Description:	On west edge of road opposite pole No. 161, approximately 2.4 miles (4 km) north of the Reid-MacDiarmid township boundary.



ODM9110

Looking South

**Ibid.*

STURGEON FALLS HYDRO LINE 9630-70

Elevation: 875 ± 25 ft.
Latitude: 48°47.04'N 5403350 N
Longitude: 81°29.31'W 464110 E
Map Reference: N.T.S. Buskegau River 42 A/14 W
Bouguer Value: −33.41
Preliminary G: 980.88416
Description: On west edge of road opposite pole No. 71, one pole north of the bend in the hydro line, Reid Township.

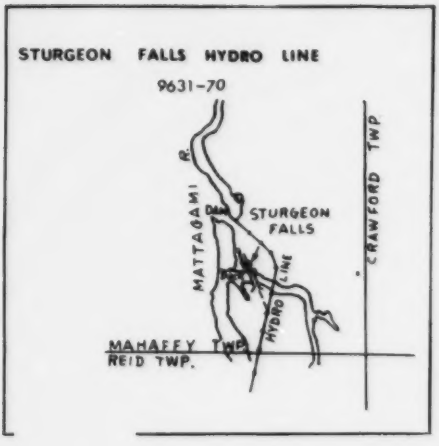
ODM9111

Looking South

*Ibid.

STURGEON FALLS, MAHAFFY TOWNSHIP 9631-70

Elevation:	830 ± 25 ft.	
****Latitude:***	48°48.49'N	5406025 N
****Longitude:***	81°29.09'W	464400E
Map Reference:	N.T.S. Buskegau River 42 A/14 W	
Bouguer Value:	−31.76	
Preliminary G:	980.89070	
Description:	At base of hydro pole on south side of driveway to house. House is southernmost of 3 houses at Sturgeon Falls hydro dam.	



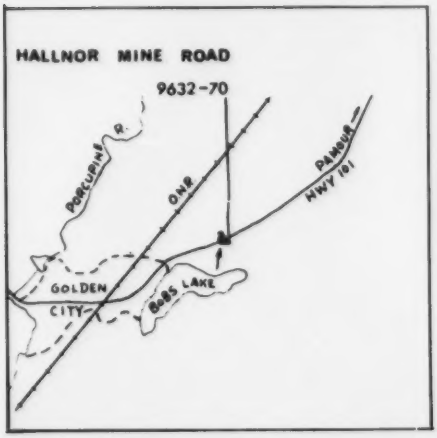
ODM9112

Looking Northwest

**Ibid.*

HALLNOR MINE ROAD, WHITNEY TOWNSHIP 9632-70

Elevation: 954.5 ± 0.1 ft.
Latitude: 48°30.06'N 5371790 N
Longitude: 81°08.42'W 489626 E
Map Reference: N.T.S. Pamour 42 A/11 E
Bouguer Value: −53.55
Preliminary G: 980.83388
Description: On outcrop, 100 feet (30.5 m) west of junction of Hallnor Mine road and Highway 101; next to telephone pole.



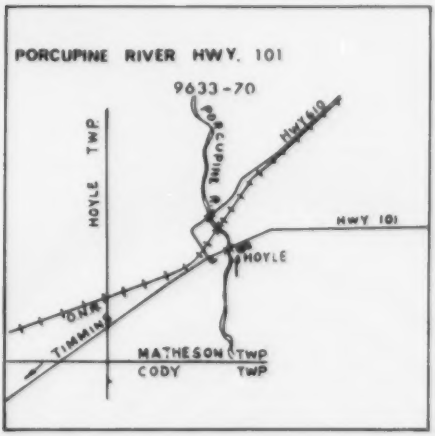
ODM9113

Looking East

*Ibid.

PORCUPINE RIVER, MATHESON TOWNSHIP 9633-70

Elevation: 950.85 ± 0.1 ft.
***Latitude:** 48°33.01'N 5377240 N
***Longitude:** 81°03.12'W 496160 E
Map Reference: N.T.S. Pamour 42 A/11 E
Bouguer Value: −54.95
Preliminary G: 980.83713
Description: On an outcrop 200 feet (61 m) east of the Porcupine River Bridge, south side of Highway 101, Matheson Township.



ODM9114

Looking West

*Ibid.

WEST BRANCH OF MATHESON CREEK 9634-70

Elevation:	916 ± 0.1 ft.
***Latitude:**	48°33.14′N 5377490 N
***Longitude:**	81°00.33′W 499590 E
Map Reference:	N.T.S. Pamour 42 A/11 E
Bouguer Value:	−55.45
Preliminary G:	980.83891
Description:	On concrete marker for buried cable, 100 feet (30.5 m) east of bridge on Highway 101 over east branch of Matheson Creek (or Moose Creek), Matheson Township.

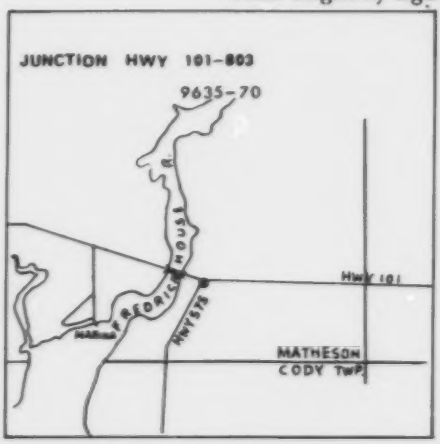
ODM9115

Looking West

*Ibid.

JUNCTION HIGHWAYS 101-803 (old 575) 9635-70

Elevation: 934.4 ± 0.1 ft.
***Latitude:** 48°32.75′N 5376760 N
***Longitude:** 80°58.17′W 502240 E
Map Reference: N.T.S. Porquis Junction 42 A/10 W
Bouguer Value: −56.94
Preliminary G: 980.83576
Description: On the southeast corner of intersection of Highways 101 and 803 (old 575), approximately 800 feet (244 m) east of the Fredrick House River bridge, Matheson Township.
Note: Highway sign removed August, 1970.



ODM9116

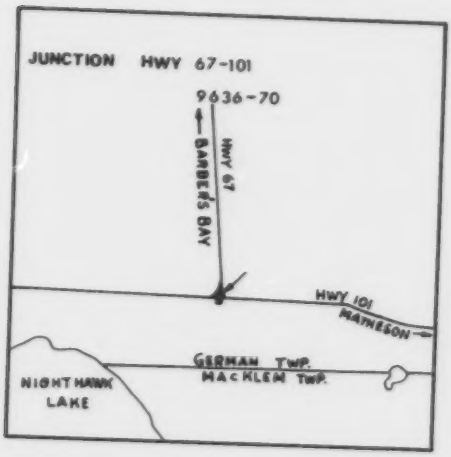
Looking West

*Ibid.

JUNCTION HIGHWAYS 101-67

9636-70

Elevation: 946.8 ± 0.1 ft.
***Latitude:** 48°32.72′N 5376710 N
***Longitude:** 80°53.43′W 508075 E
Map Reference: N.T.S. Porquis Junction 42 A/10 W
Bouguer Value: −54.61
Preliminary G: 980.83728
Description: On west end of 24 inch (60 cm) steel culvert, on Highway 67, 50 feet (15.2 m) north of center line of Highway 101, German Township.



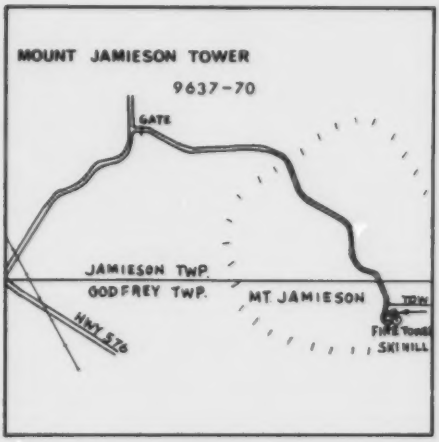
ODM9117

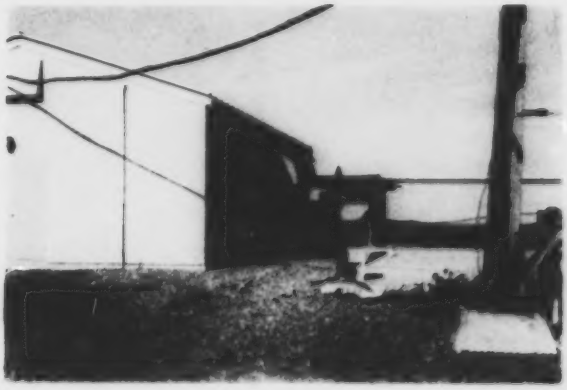
Looking South

*Ibid.

MOUNT JAMIESON TOWER 9637-70

Elevation: 1366 ± 1 ft.
****Latitude:*** 48°32.18′N 5375850 N
****Longitude:*** 81°32.47′W 460040 E
Map Reference: N.T.S. Kamiskotia Lake 42 A/12
Bouguer Value: −43.99
Preliminary G: 980.82194
Description: On southwest corner of large concrete platform next to Mount Jamieson fire tower, Godfrey Township.





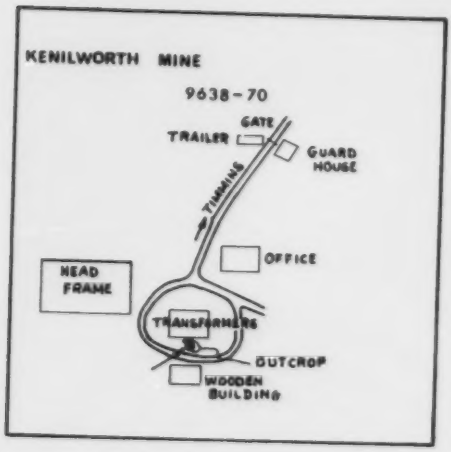
ODM9118

Looking North

**Ibid.*

KENILWORTH MINES LIMITED TRANSFORMER 9638-70

Elevation:	1049 ± 10 ft.	
****Latitude:***	48°25.31'N	5363040 N
****Longitude:***	81°20.37'W	474875 E
Map Reference:	N.T.S. Timmins 42 A/6 W	
Bouguer Value:	–49.31	
Preliminary G:	980.82539	
Description:	On small outcrop, 5 feet (1 5 m) south of power transformers on Kenilworth Mine property, Ogden Township.	



ODM9119

Looking West

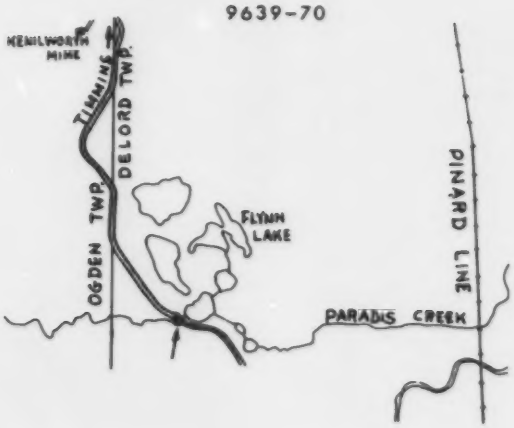
**Ibid.*

PARADIS CREEK, DELORO TOWNSHIP 9639-70

Elevation:	994 ± 10 ft.	
***Latitude:**	48°23.83′N	5360290 N
***Longitude:**	81°19.53′W	475900 E
Map Reference:	N.T.S. Timmins 42 A/6 W	
Bouguer Value:	−51.31	
Preliminary G:	980.82443	
Description:	On west end of southernmost culvert, Paradis Creek, on gravel road running south from Timmins to Texmont Mine property.	

PARADIS CREEK DELORO TWP

9639-70

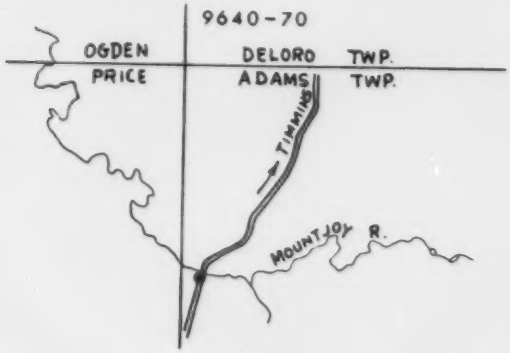


*Ibid.

MOUNTJOY RIVER BRIDGE, ADAMS TOWNSHIP 9640-70

Elevation:	930 ± 25 ft.
****Latitude:***	48°20.68′N 5354460 N
****Longitude:***	81°19.94′W 475375 E
Map Reference:	N.T.S. Timmins 42 A/6 W
Bouguer Value:	−53.62
Preliminary G:	980.82128
Description:	On southwest end of wooden bridge over the Mountjoy River on gravel road to Texmont Mine property.

MOUNTJOY RIVER ADAMS TWP

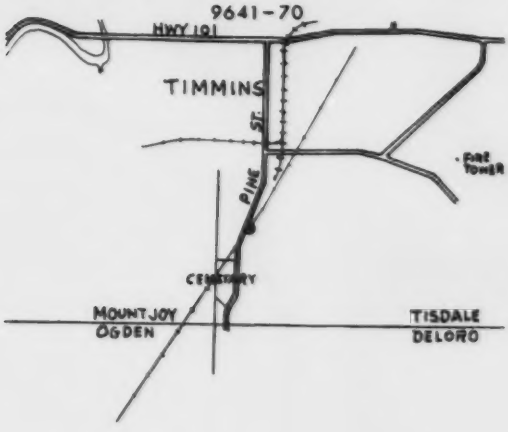


*Ibid.

TOWER 293, WAWAITIN-TIMMINS HYDRO LINE 9641-70

Elevation:	989.5 ± 1 ft.
****Latitude:***	48°27.53′N 5367150 N
****Longitude:***	81°19.84′W 475550 E
Map Reference:	N.T.S. Timmins 42 A/6 W
Bouguer Value:	−53.50
Preliminary G:	980.82808
Description:	Center and beneath tower No. 293 of the Wawaitin to Timmins powerline. Tower is on east side of Pine St. S., Timmins, approximately .25 miles (400 m) north of cemetery, Tisdale Township.

WAWAITIN POWER LINE TOWER 293

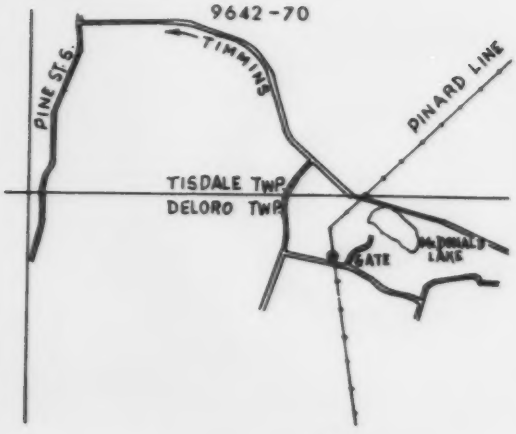


*Ibid.

TOWER 9, PINARD HYDRO LINE 9642-70

Elevation:	1061 ± 1 ft.
****Latitude:***	48°26.70′N 5365590 N
****Longitude:***	81°17.64′W 478250 E
Map Reference:	N.T.S. Timmins 42 A/6 W
Bouguer Value:	–49.15
Preliminary G:	980.82689
Description:	At base of tower No. 9 of Pinard hydro transmission line, 300 feet (91.4 m) north of gravel road leading to Aunor Gold Mines Limited property, Deloro Township.

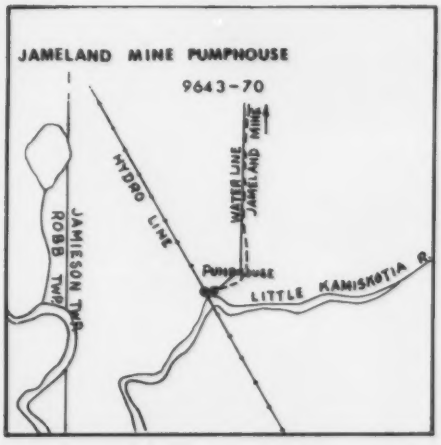
PINARD HYDRO LINE TOWER 9



**Ibid.*

JAMELAND MINE PUMPHOUSE, JAMIESON TOWNSHIP 9643-70

Elevation:	935 ± 1 ft.
****Latitude:***	48°34.29′N 5379775 N
****Longitude:***	81°35.34′W 456550 E
Map Reference:	N.T.S. Kamiskotia Lake 42 A/12
Bouguer Value:	−29.78
Preliminary G:	980.86513
Description:	At base of hydro pole on Kam-Kotia hydro line, 30 feet (9.1 m) north of the Little Kamiskotia River near Jameland Mines Limited water pumphouse.



IODM9120

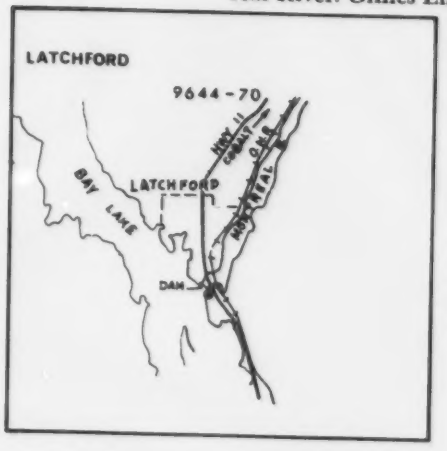
Looking South

**Ibid.*

LATCHFORD

9644-70

Elevation:	913.89 ± 0.1 ft.
***Latitude:**	47°19.28′N 5241350 N
***Longitude:**	79°48.56′W 589975 E
Map Reference:	N.T.S. Cobalt 31 M/5 W
Bouguer Value:	–22.81
Preliminary G:	980.76105
Description:	On a cut at the southeast end of the water control dam on the Montreal River, on a concrete abutment, 116 feet (35.4 m) west of the south end of the Highway 11 bridge over the Montreal River. Gillies Limit Township.



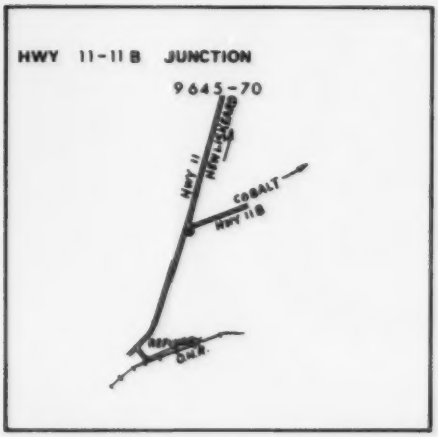
ODM9121

Looking North

*Ibid.

HIGHWAY 11-11B JUNCTION 9645-70

Elevation: 950 ± 1 ft.
****Latitude:*** 47°22.50′N 5247375 N
****Longitude:*** 79°45.53′W 593695 E
Map Reference: N.T.S. Cobalt 31 M/5 W
Bouguer Value: −25.88
Preliminary G: 980.76069
Description: On concrete water drain on east side of exit to Highway 11B from Highway 11 for north bound traffic. Coleman Township.



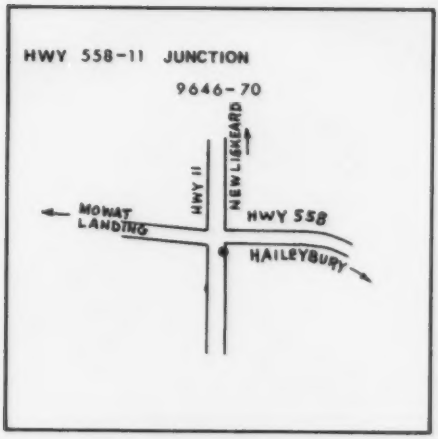
ODM9122

Looking North

**Ibid.*

JUNCTION HIGHWAYS 11 AND 558 9646-70

Elevation: 822.0 ± 0.1 ft.
***Latitude:** 47°27.49'N 5256660 N
***Longitude:** 79°43.30'W 596355 E
Map Reference: N.T.S. Cobalt 31 M/5 W
Bouguer Value: −33.76
Preliminary G: 980.76799
Description: On concrete water drain, southeast corner of intersection of Highways 11 and 558.



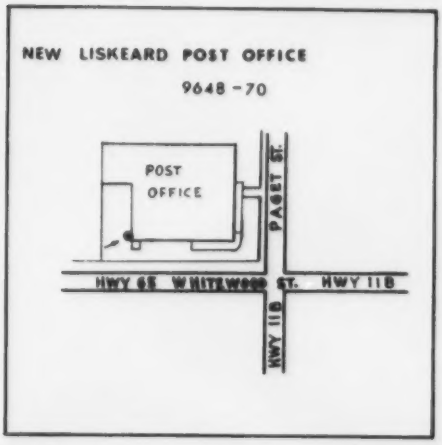
ODM9123

Looking Northwest

*Ibid.

NEW LISKEARD POST OFFICE 9647-70

Elevation:	620 ± 1 ft.	
****Latitude:***	47°30.52′N	5262325 N
****Longitude:***	79°40.47′W	599810 E
Map Reference:	N.T.S. New Liskeard 31 M/12 E	
Bouguer Value:	−32.59	
Preliminary G:	980.78578	
Description:	On sidewalk, 5 feet (1.5 m) from steps to east entrance from Paget St., New Liskeard post office situated on the corner of Paget St. and Whitewood St., Dymond Township.	



ODM9124

Looking West

**Ibid.*

NEW LISKEARD POST OFFICE 9648-70

Elevation: 622.48 ± 0.1 ft.
Latitude: 47°30.50′N 5262300 N
Longitude: 79°40.50′W 599775 E
Map Reference: N.T.S. New Liskeard 31 M/12 E
Bouguer Value: −32.60
Preliminary G: 980.78562
Description: Two feet (0.6 m) from southwest wall of New Liskeard Post Office, one foot (0.3 m) from corner of building, next to Geodetic Bench Mark No. 2915, on asphalt pavement, (Dymond Township). See Pub.20, Geodetic Survey of Canada, page 131.

ODM9125

Looking Northeast

*Ibid.

NIGHTHAWK LAKE PENINSULA 9649-70

Elevation: 917.9 ± 1 ft.
***Latitude:** 48°29.63′N 5370985 N
***Longitude:** 80°58.33′W 502050 E
Map Reference: N.T.S. Watabeag River 42 A/7 W
Bouguer Value: −50.93
Preliminary G: 980.83807
Description: On concrete foundation for hoist of abandoned mine (Hydro Explorations Limited) on the south end of a peninsula on north shore of Nighthawk Lake, Cody Township. Access provided by Highway 803, (old Highway 575).

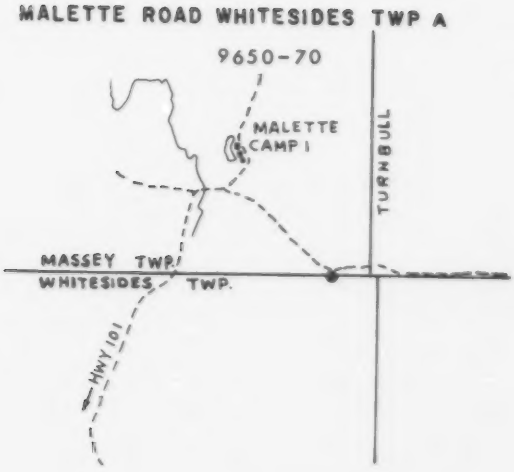
ODM9126

Looking South

*Ibid.

MALETTE WINTER ROAD, WHITESIDES TOWNSHIP 9650-70

Elevation:	1036.4 ± 1 ft.
****Latitude:***	48°27.18'N 5366420 E
****Longitude:***	81°44.94'W 445825 N
Map Reference:	N.T.S. Dana Lake 42 A/5
Bouguer Value:	−27.65
Preliminary G:	980.85061
Description:	On a painted boulder on the south side of the Malette winter road leading from Camp 1 to the mill in Bristol Township line, 3/4 mile (1.2 km) west of the southwest corner of Turnbull Township.

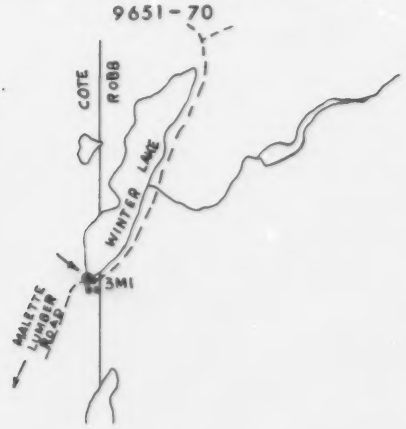


**Ibid.*

WINTER LAKE, COTE-ROBB BOUNDARY 9651-70

Elevation: 1005 ± 10 ft.
***Latitude:** 48°34.86'N 5380925 N
***Longitude:** 81°43.66'W 446325 E
Map Reference: N.T.S. Kamiskotia Lake 42 A/12
Bouguer Value: −22.38
Preliminary G: 980.86921
Description: Ten feet (3 m) from the south shore of Winter Lake, approximately 20 feet (6 m) west of the Robb-Cote township boundary, on a trail leading from abandoned lumber camp.

WINTER LAKE COTE – ROBB TWP

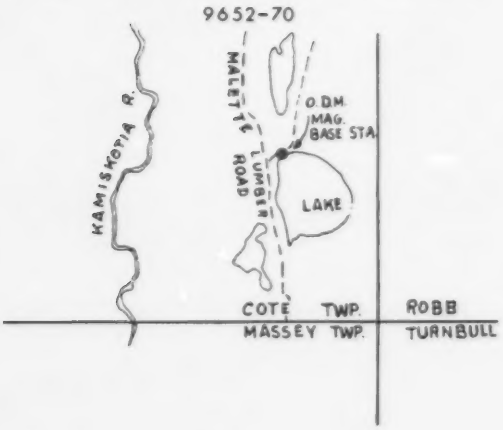


*Ibid.

COTE TOWNSHIP MAGNETIC BASE STATION 9652-70

Elevation: 1027 ± 10 ft.
****Latitude:*** 48°33.16′N 5377790 N
****Longitude:*** 81°44.43′W 445350 E
Map Reference: N.T.S. Kamiskotia Lake 42 A/12
Bouguer Value: −32.50
Preliminary G: 980.85520
Description: Beside large painted post marking Ontario Department of Mines Magnetic base station in southeast Cote Township. Approximately 200 feet (60 m) from north shore of lake.

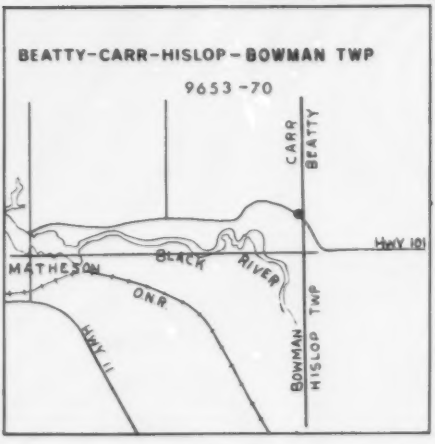
COTE TWP ODM MAG BASE STATION



**Ibid.*

BEATTY-CARR-HISLOP-BOWMAN TOWNSHIP CORNER 9653-70

Elevation: 900.2 ± 0.1 ft.
****Latitude:*** 48°32.48′N 5376425 N
****Longitude:*** 80°25.25′W 542745 E
Map Reference: N.T.S. Matheson 42 A/9 W
Bouguer Value: −38.94
Preliminary G: 980.85537
Description: North end of 18 inch (45 cm) steel culvert on Highway 101, 100 feet (30.5 m) west of intersection of Highway 101 and a gravel road that travels north along the Carr-Beatty township boundary, 2.2 miles (3.5 km) east of Matheson.



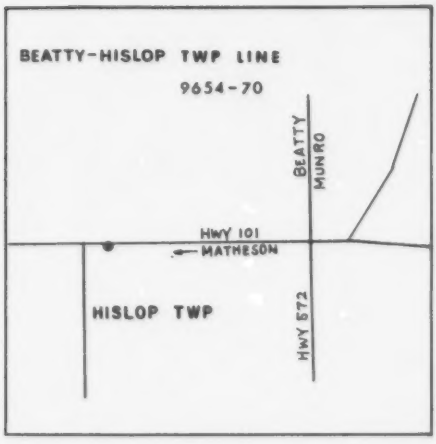
ODM9127

Looking East-Northeast

*Ibid.

HIGHWAY 101-BEATTY-HISLOP TOWNSHIP LINE 9654-70

Elevation: 988 ± 1 ft.
****Latitude:*** 48°32.26′N 5376080 N
****Longitude:*** 80°18.47′W 551090 E
Map Reference: N.T.S. Matheson 42 A/9 W
Bouguer Value: –48.96
Preliminary G: 980.83977
Description: 600 feet (183 m) east of junction of gravel road and Highway 101, 2 miles (3.2 km) west of the southeast corner of Beatty Township, above a wood stave culvert.



ODM9128

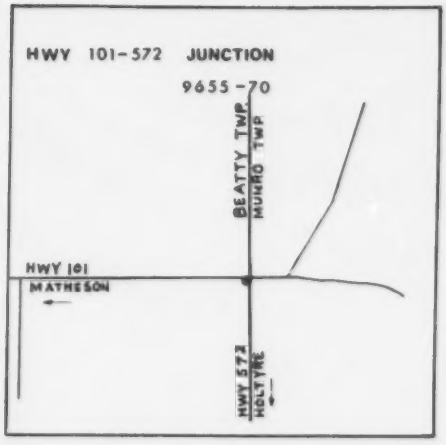
Looking East

**Ibid.*

HIGHWAY 101-572 JUNCTION

9655-70

Elevation: 990 ± 1 ft.
Latitude: 48°32.25′N 5376085 N
Longitude: 80°16.51′W 553500 E
Map Reference: N.T.S. Matheson 42 A/9 W
Bouguer Value: –49.38
Preliminary G: 980.83923
Description: On the west end of 48 inch steel culvert beneath Highway 572 at junction of Highway 101. Corner of Beatty, Munro, Hislop and Guibord Townships.



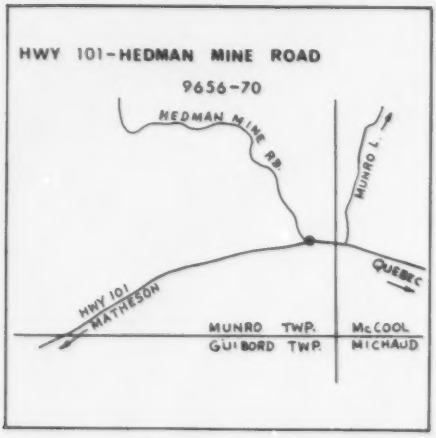
ODM9129

Looking North

*Ibid.

HIGHWAY 101-HEDMAN MINE ROAD 9656-70

Elevation:	1194 ± 1 ft.	
***Latitude:**	48°32.83'N	5377255 N
***Longitude:**	80°08.87'W	562895 E
Map Reference:	N.T.S. Matheson 42 A/9 E	
Bouguer Value:	−38.40	
Preliminary G:	980.83878	
Description:	Beside DHO concrete survey marker (marked 29 + 69.04), 80 feet (24.3 m) northeast of junction of Highway 101 and Hedman Mine road, Munro Township, on boulder beneath sign for Hedman Mine.	



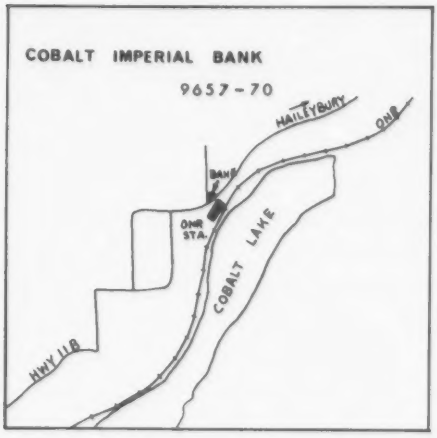
ODM9130

Looking East

*Ibid.

COBALT IMPERIAL BANK 9657-70

Elevation:	989.87 ± 0.1 ft.	
****Latitude:***	47°23.80′N	5249880 N
****Longitude:***	79°41.07′W	599270 E
Map Reference:	N.T.S. Cobalt 31 M/5 E	
Bouguer Value:	−28.55	
Preliminary G:	980.75757	
Description:	On west side of parapet at front entrance to Canadian Imperial Bank in Cobalt, 14 inches (36 cm) above Geodetic Bench mark No. 170E, see Pub.20, Geodetic Survey of Canada, page 42.	



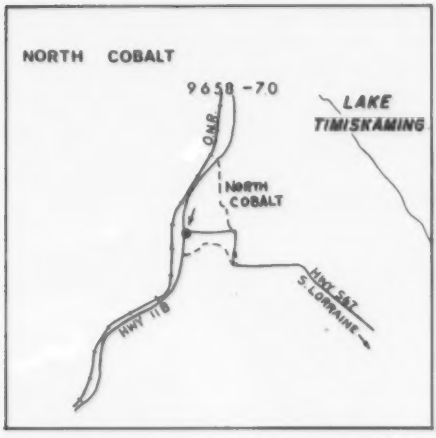
ODM9131

Looking Northeast

**Ibid.*

NORTH COBALT 9658-70

Elevation:	838 ± 1 ft.
****Latitude:***	47°25.50′N 5253075 N
****Longitude:***	79°38.72′W 602165 E
Map Reference:	N.T.S. Cobalt 31 M/5 E
Bouguer Value:	−31.60
Preliminary G:	980.76619
Description:	On sidewalk on northeast corner of junction of Highways 11B and 567.



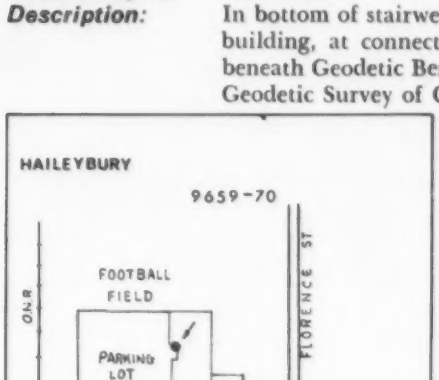
ODM9132

Looking West

**Ibid.*

HAILEYBURY, MINING SCHOOL 9659-70

Elevation:	734.4 ± 0.1 ft.
***Latitude:**	47°27.19′N 5256210 N
***Longitude:**	79°38.40′W 602520 E
Map Reference:	N.T.S. Cobalt 31 M/5 E
Bouguer Value:	−32.67
Preliminary G:	980.77396
Description:	In bottom of stairwell at rear of Haileybury School of Mines building, at connection of old building and new addition, beneath Geodetic Bench Mark No. 174 E described in Pub.20, Geodetic Survey of Canada, page 79.



ODM9133

Looking South

*Ibid.

MUNRO MINE, MUNRO TOWNSHIP 9660-70

Elevation: 1023.9 ± 0.1 ft.
****Latitude:*** 48°33.41'N 5378247 N
****Longitude:*** 80°15.36'W 554900 E
Map Reference: N.T.S. Matheson 42 A/9 E
Bouguer Value: –40.27
Preliminary G: 980.84799
Description: On asphalt pavement at southwest corner of guard house beside gate to Munro Mine (asbestos).

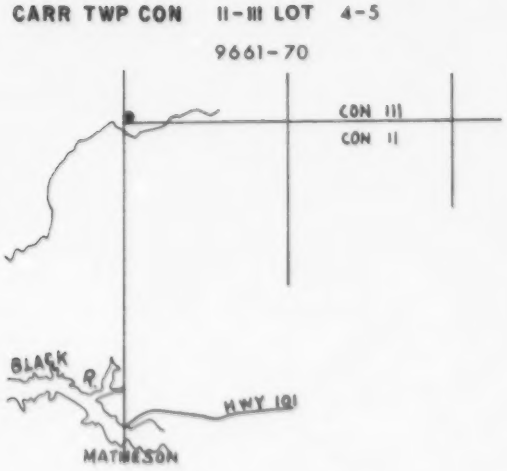
ODM9134

Looking North

**Ibid.*

CARR TOWNSHIP, CONCESSION II-III, LOTS 4-5 9661-70

Elevation:	865.2 ± 1 ft.
****Latitude:***	48°34.00'N 5379220 N
****Longitude:***	80°27.86'W 539520 E
Map Reference:	N.T.S. Matheson 42 A/9 W
Bouguer Value:	−45.53
Preliminary G:	980.85313
Description:	On northeast corner of intersection of gravel roads on concession II-III line, lot 4-5 line, Carr Township.



*Ibid.

CARR TOWNSHIP, CONCESSION III-IV, LOT 4-5 9662-70

Elevation:	902.9 ± 1 ft.	
****Latitude:***	48°34.86'N	5380805 N
****Longitude:***	80°27.86'W	539500 E
Map Reference:	N.T.S. Matheson 42 A/9 W	
Bouguer Value:	−45.38	
Preliminary G:	980.85233	
Description:	Northeast corner of intersection of gravel roads on concession III-IV line and lot 4-5 line.	

CARR TWP CON III-IV LOT 4-5

9662-70

*Ibid.

CARR TOWNSHIP, CONCESSION IV-V, LOT 4-5 9663-70

Elevation:	907.6 ± 1 ft.	
****Latitude:***	48°35.75′N	5382450 N
****Longitude:***	80°27.87′W	539480 E
Map Reference:	N.T.S. Matheson 42 A/9 W	
Bouguer Value:	−46.66	
Preliminary G:	980.85208	
Description:	Center of side road on concession IV-V line, to west of road on the lot 4-5 line. Carr Township.	

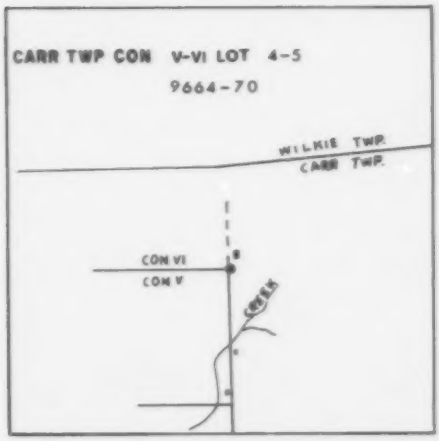
CARR TWP CON IV-V LOT 4-5

9663-70

*Ibid.

CARR TOWNSHIP, CONCESSION V-VI, LOT 4-5 9664-70

Elevation:	942.2 ± 1 ft.
****Latitude:***	48°36.62′ N 5384070 N
****Longitude:***	80°27.89′W 539940 E
Map Reference:	N.T.S. Matheson 42 A/9 W
Bouguer Value:	–44.53
Preliminary G:	980.85344
Description:	East side of road on lot 4-5 line, alligned with center of road going west on concession V-VI line.



ODM9135

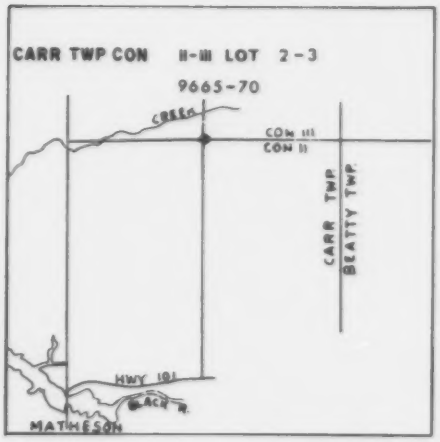
Looking West

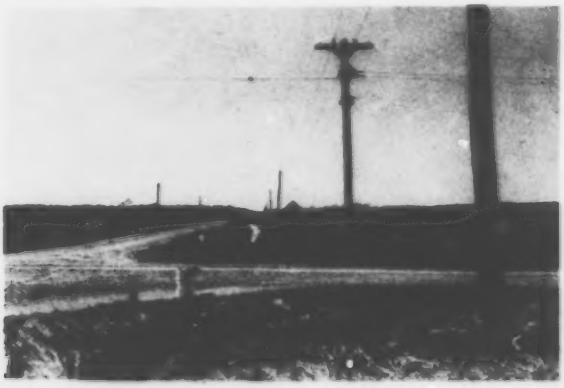
**Ibid.*

CARR TOWNSHIP

9665-70

Elevation:	892 ± 10 ft.	
****Latitude:***	48°34.01′N	5379250 N
****Longitude:***	80°26.55′W	541125 E
Map Reference:	N.T.S. Matheson 42 A/9 W	
Bouguer Value:	−45.87	
Preliminary G:	980.85124	
Description:	On northeast corner of intersection of gravel roads on concession II-III line, lot 2-3, 12 feet (3.6 m) from hydro pole.	





ODM9136

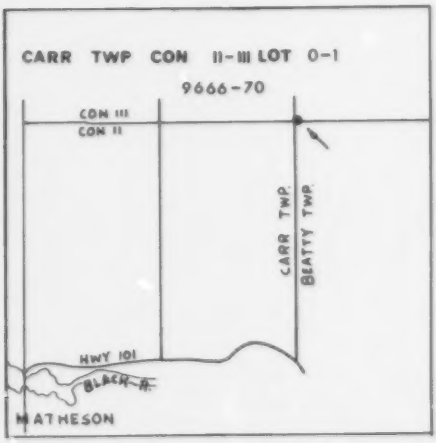
Looking West

**Ibid.*

CARR-BEATTY TOWNSHIP LINE

9666-70

Elevation:	928.8 ± 1 ft.
****Latitude:***	48°34.02′N 5379273 N
****Longitude:***	80°25.22′W 542755 E
Map Reference:	N.T.S. Matheson 42 A/9 W
Bouguer Value:	–45.32
Preliminary G:	980.84959
Description:	Northeast corner of intersection of gravel roads on concession II-III line and Carr-Beatty township boundary.



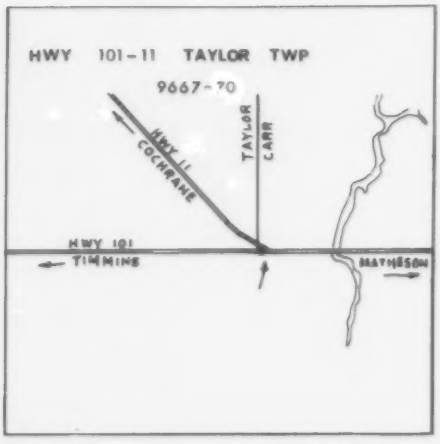
ODM7137

Looking Southwest

**Ibid.*

JUNCTION HIGHWAY 11-101 9667-70

Elevation: 885.05 ± 0.1 ft.
***Latitude:** 48°32.27'N 5375965 N
***Longitude:** 80°32.93'W 533305 E
Map Reference: N.T.S. Porquis Junction 42 A/10 E
Bouguer Value: −37.39
Preliminary G: 980.85752
Description: On the south side of the base of a large highway sign at the junction of Highways 11 and 101, southeast corner of Taylor Township.



ODM9138

Looking West

*Ibid.

SHILLINGTON 9668-70

Elevation: 877.53 ± 0.1 ft.
****Latitude:*** 48°32.28′N 5375945 N
****Longitude:*** 80°40.81′W 523600 E
Map Reference: N.T.S. Porquis Junction 42 A/10 E
Bouguer Value: −35.31
Preliminary G: 980.86005
Description: At southeast corner of concrete foundation of building located on northeast corner of intersection of Highways 101 and 577. Beneath cut 'X' on wall. Southwest corner of Taylor Township.

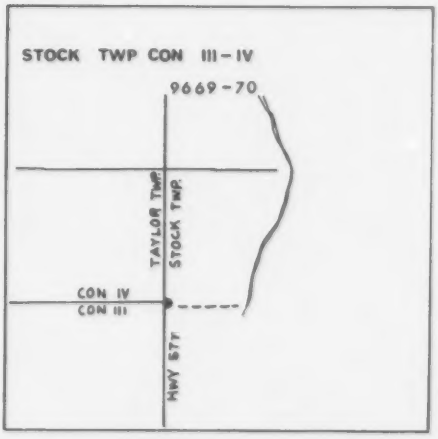
OGM9139

Looking East-Northeast

**Ibid.*

STOCK TOWNSHIP, CONCESSION III-IV 9669-70

Elevation:	920.7 ± 1 ft.	
****Latitude:***	48°34.86′N	5380700 N
****Longitude:***	80°40.82′W	523570 E
Map Reference:	N.T.S. Porquis Junction 42 A/10 E	
Bouguer Value:	−45.58	
Preliminary G:	980.85106	
Description:	On the Taylor-Stock township line, on east edge of pavement on Highway 577, on concession III-IV line.	



ODM9140

Looking West

**Ibid.*

HIGHWAY 577 TAYLOR TOWNSHIP 9670-70

Elevation: 874.0 ± 1 ft.
****Latitude:*** 48°36.39'N 5383577 N
****Longitude:*** 80°40.81'W 523560 E
Map Reference: N.T.S. Porquis Junction 42 A/10 E
Bouguer Value: −44.56
Preliminary G: 980.85720
Description: On the northeast end of Bailey bridge over the Driftwood River on Highway 577, approximately 2 miles (3 km) south of Highway 11.

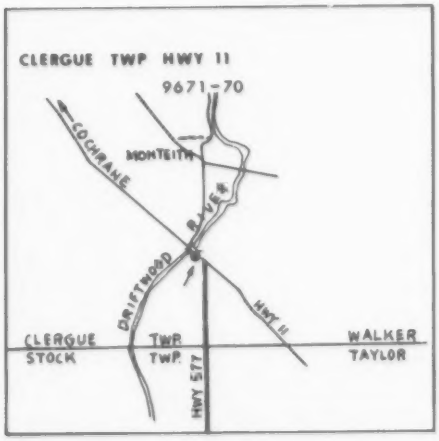
ODM9141

Looking South-Southeast

**Ibid.*

HIGHWAY 11, CLERGUE TOWNSHIP 9671-70

Elevation: 884.0 ± 0.1 ft.
****Latitude:*** 48°38.02′N 5386595 N
****Longitude:*** 80°40.92′W 523457 E
Map Reference: N.T.S. Porquis Junction 42 A/10 E
Bouguer Value: −37.68
Preliminary G: 980.86585
Description: On the southwest side of easterly approach to concrete bridge over the Driftwood River on Highway 11, near the Walker-Clergue township line.



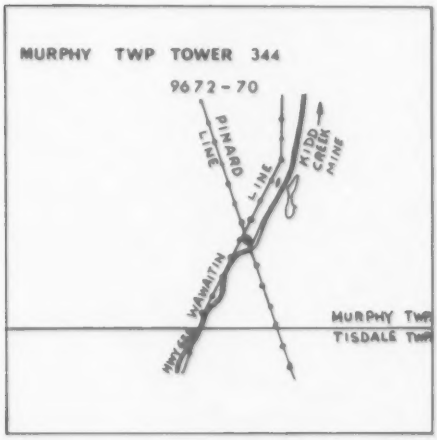
ODM9142

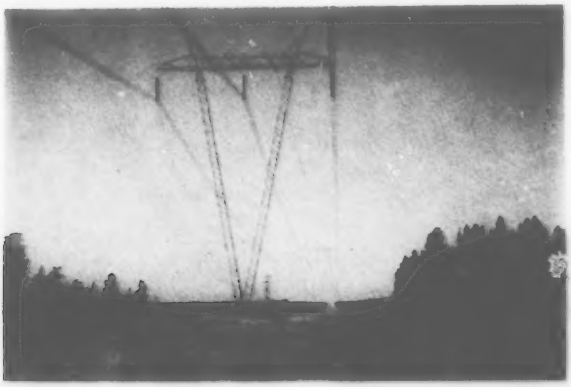
Looking Northwest

**Ibid.*

MURPHY TOWNSHIP, TOWER 344, PINARD LINE 9672-70

Elevation:	983 ± 1 ft.
****Latitude:***	48°32.68′N 5376895 N
****Longitude:***	81°16.83′W 479300 E
Map Reference:	N.T.S. Pamour 42 A/11 W
Bouguer Value:	−52.81
Preliminary G:	980.83703
Description:	At base of hydro transmission tower No. 344 on Pinard transmission line, approximately 500 feet (150 m) southeast of intersection with Wawaitin transmission line.





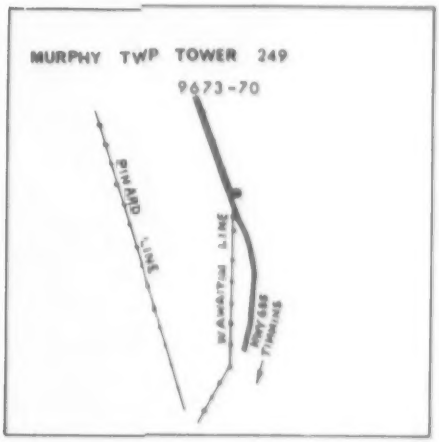
ODM9143

Looking Northwest

**Ibid.*

MURPHY TOWNSHIP, TOWER 249, WAWAITIN LINE 9673-70

Elevation:	978 ± 1 ft.	
****Latitude:***	48°34.69′N	5379910 N
****Longitude:***	81°16.73′W	479705 E
Map Reference:	N.T.S. Pamour 42 A/11 W	
Bouguer Value:	−50.55	
Preliminary G:	980.84240	
Description:	Beneath tower 249 of Wawaitin hydro transmission line, next to steel survey marker. Tower 249 is beside Highway 655 at bend in line.	



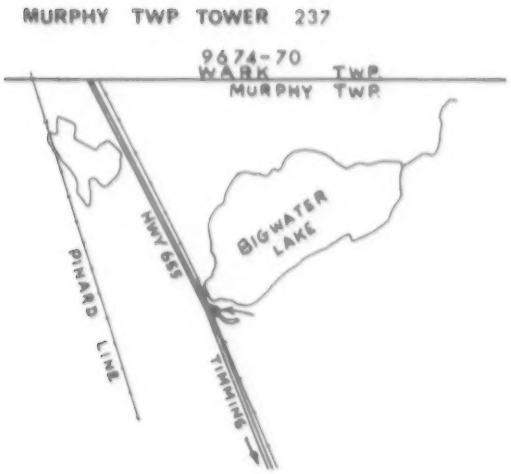
GDAM91144

Looking South

**Ibid.*

MURPHY TOWNSHIP, TOWER 237 9674-70

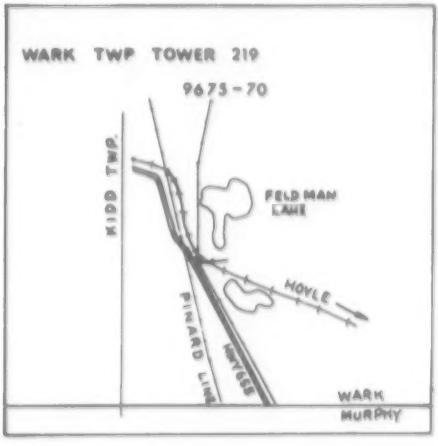
Elevation:	950 ± 1 ft.
Latitude:	48°36.25′N 5383255 N
Longitude:	81°17.80′W 478325 E
Map Reference:	N.T.S. Pamour 42 A/11 W
Bouguer Value:	−51.34
Preliminary G:	980.84561
Description:	Beneath tower 237 on Wawaitin hydro transmission line on small boulder, approximately 400 feet (120 m) southwest of Bigwater Lake.



*Ibid.

WARK TOWNSHIP, TOWER 219, WAWAITIN LINE 9675-70

Elevation:	954 ± 1 ft.	
****Latitude:***	48°38.43'N	5387295 N
****Longitude:***	81°19.35'W	476275 E
Map Reference:	N.T.S. Pamour 42 A/11 W	
Bouguer Value:	−46.52	
Preliminary G:	980.85344	
Description:	Beneath tower 219 of Wawaitin hydro transmission line beside steel survey pin 100 feet (30.5 m) south of railway line to the Kidd Creek Mine.	



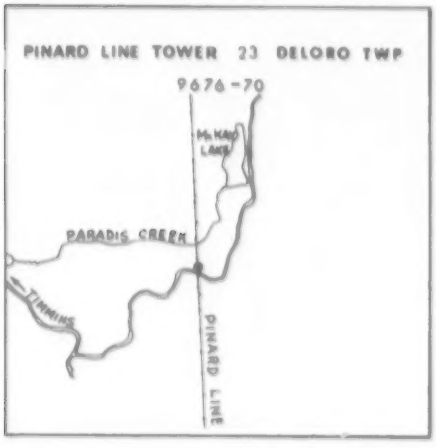
ODM9145

Looking North

**Ibid.*

PINARD LINE, TOWER 23, DELORO TOWNSHIP 9676-70

Elevation: 1037 ± 1 ft.
****Latitude:*** 48°23.64'N 5359915 N
****Longitude:*** 81°17.12'W 478870 E
Map Reference: N.T.S. Timmins 42 A/6 W
Bouguer Value: −52.61
Preliminary G: 980.82031
Description: At base of tower 23, Pinard hydro transmission line, 100 feet (30.5 m) north of dirt road.



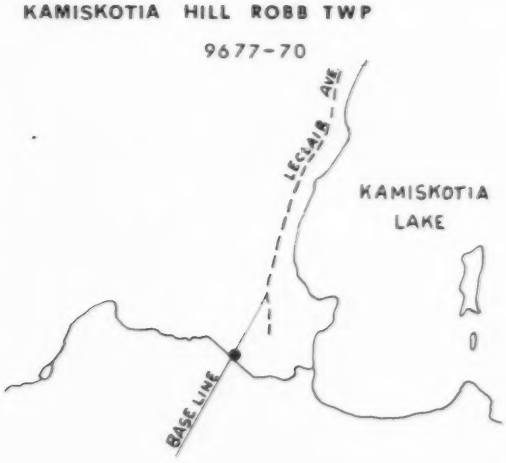
ODM9146

Looking South

**Ibid.*

KAMISKOTIA HILL, ROBB TOWNSHIP 9677-70

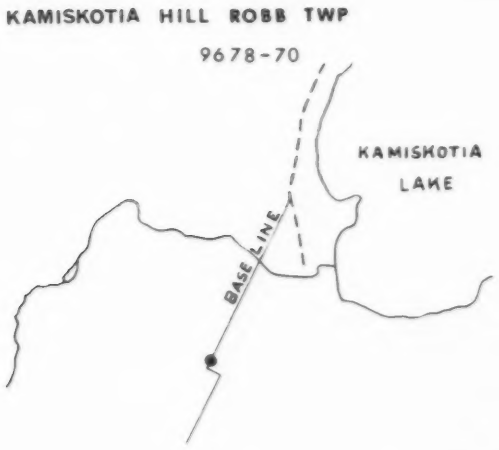
Elevation: 945.5 ± 1 ft.
***Latitude:** 48°33.73'N
***Longitude:** 81°39.26'W
Map Reference: N.T.S. Kamiskotia Lake 42 A/12
O.D.M. Preliminary Map P. 598.
Bouguer Value: −20.82
Preliminary G: 980.87265
Description: At picket 38 + 00 south on cut base line over Kamiskotia, Robb Township. Base line runs at 210° from LeClair Ave. on west side of Kamiskotia Lake.



*Ibid.

KAMISKOTIA HILL, ROBB TOWNSHIP 9678-70

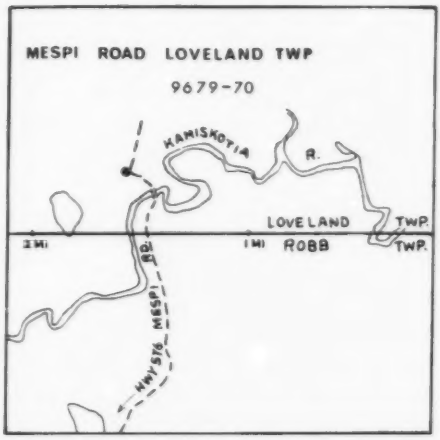
Elevation:	1228.5 ± 1 ft.
****Latitude:***	48°33.20′N
****Longitude:***	81°39.70′W
Map Reference:	N.T.S. Kamiskotia Lake 42 A/12 O.D.M. Preliminary Map P.598.
Bouguer Value:	−21.78
Preliminary G:	980.85390
Description:	At picket 75 + 00 South on base line cut over Kamiskotia Hill, Robb Township. (see 9677-70)



*Ibid.

MESPI MINE'S ROAD, LOVELAND TOWNSHIP 9679-70

Elevation: 927 ± 1 ft.
****Latitude:*** 48°37.63'N 538600 N
****Longitude:*** 81°37.82'W 453550 E
Map Reference: N.T.S. Kamiskotia Lake 42 A/12
Bouguer Value: −35.66
Preliminary G: 980.86473
Description: Beside tree stump painted red, at top of hill, 400 feet (122 m) north of wooden bridge over Kamiskotia River in Loveland Township.



ODM9147

Looking South

**Ibid.*

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